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ABSTRACT

The TIPS (Teaching Information Processing System) Course Package was designed to be used with the Macro-Games Course Package (SO 011 930) in order to train college students to apply the tools of economic analysis to current problems. TIPS is used to provide feedback and individualized assignments to students, as well as information about the progress of the class as a whole to the teacher. The document is presented in seven sections. Section I offers a course management plan for eight weeks, listing lecture topics, reading assignments, TIPS survey suggestions, and special activities. Section II explains the components of the TIPS instructional package, including a list of concept areas, objectives, tests, simulated sample student reports, and rules to direct each student's course of instruction. Sections III through VIII consist of TIPS instructional units, numbered 0-4, covering basic macroeconomic concepts; basic tools and terminology used in studying economics; a simple model of income and expenditure determination; aggregate demand, unemployment, and inflation; and using the expanded model for policy making. Concept areas and contents are listed for each unit, including educational objectives such as definition of terms, identification of goals and roles, application of laws, identification of relationships, and technical application of concepts and tools. Multiple choice surveys with answer keys, simulated sample student reports, and prescription and decision rules also accompany each unit. Section IX provides seven problems and their answer keys. (CK)

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HERIOT-WATT UNIVERSITY, EDINBURGH

The Macro - Tips Course Package

THE ESMÉE FAIRBAIRN RESEARCH CENTRE
Department of Economics

SP 011 931

The Esmée Fairbairn Research Centre, TEFRC, was established in 1970 and grew out of the Economics Education Project which was concerned with analysing how economics was being taught in schools, polytechnics, colleges and universities in the United Kingdom. Since its establishment, the Centre has undertaken several studies in the United Kingdom and United States of America, focussing mainly on efficiency in higher education.

Beginning in 1975, the principal research activity of TEFRC will be evaluating the cost effectiveness of alternative systems of instruction in higher education and assessing the likelihood of their diffusion in different institutional settings.

The Research Centre is part of the Department of Economics at Heriot-Watt University. The Director is Professor Keith G Lumsden.

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The Macro-TIPS Course Package

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1 Introduction

Duke University will be the pilot institution utilizing the Macro-TIPS Course Package commencing in the Fall, 1977. TIPS has been fully integrated with the Macro Units 1 - 4. The complete TIPS Instructional Package for the first four units is described in detail in Section 4.

The materials which are common to both of the Macro Courses, e.g., Course Outline for Macro Units 1 - 4, and those which are common to all courses, e.g., Psychological Inventory,. and Student Questionnaires are contained in one of the previous Course Packages.

TIPS INSTRUCTIONAL PACKAGE

Most courses are planned to fulfill several broad objectives. Success in achieving the objectives is typically demonstrated by student performance on the mid-term and final examinations.

A TIPS course extends this basic structure by further subdividing the course into a series of Instructional Units, each of which typically represents about a week of learning activity. Each Instructional Unit may in turn be divided into smaller, specific Concept Areas. At the end of each Instructional Unit, student mastery of that unit (and of the specific concepts included in it) is measured by a TIPS survey. Based on his survey performance, each student receives a set of learning prescriptions, detailing the learning activities which he should pursue during the forthcoming period. By aggregating survey results into Course Reports, the professor and his assistants are able to gauge the general level of student understanding, and to pinpoint specific areas of weakness.

There are several components in planning a TIPS course. First, it is necessary to state the objectives of each Instructional Unit. Second, it is necessary to assemble a set of multiple-choice questions to test individual student achievement of the detailed objectives. Finally, it is necessary to devise a set of Learning Prescriptions and associated Decision Rules to direct each student's course of instruction.

Below we have provided the various components of a TIPS course for the first half of Macro-Economic Principles. These components include: a syllabus (or an Instructional Management Plan), objectives for each instructional unit, surveys corresponding to each instructional unit (instructional units 2 and 4 are divided into two parts), and "sample" student reports. The latter provide an indication of the prescriptions received by three types of students: the high-achieving 100%

student, the above-average 80% student, and the non-attending student (who missed taking the TIPS survey). These are "simulated" student reports, based on hypothetical student responses.

Because the student-reports are simulated, we do not provide examples of either the Professor's Report or the Teaching (or Laboratory) Assistant's Report. To do so would require the creation of a class, and the provision of representative student responses.

The final component in the TIPS package is a listing of the various student messages and prescriptions. The Decision-Rule which generates this message is typed in square brackets immediately above the related message or prescription. The Decision Rule is expressed in range values, and pertains to a given set of grouped questions, designated by a "Gxxx". An inventory of these "Gxxx" groupings is provided at the conclusion of the listing. All messages and decision-rules pertaining to "cumulative" performance have been omitted since in the simulations, a time-dimensioned record of student performance is not created. Thus, the only messages and prescriptions listed are those which pertain to a given survey.

Three examples of interpreting the decision-rules might be instructive. Consider the listing for Survey 1. The first message, grouped together with the letter "A", is printed on all student reports where the student's score fell between 20 and 20 on the grouping of questions designated as G151. The latter is a grouping of all questions on the survey. This message, then, is generated for students with a perfect score. Similarly, the "B" message is for those students who missed at least one question on the survey. In contrast, the "C" message is for students who did not take the survey, since missing student data is coded in

the TIPS files as a "-1".

Survey "0" is a diagnostic survey, taken by students the first day of class, which provides an indication of the student's mastery of the quantitative tools necessary for learning macro-economic principles. Since most textbooks do not provide a coverage of these materials, the TIPS report provides a detailed explanation of each question missed by a student. This is not a typical format for the TIPS surveys. Instead, the remaining TIPS surveys provide prescriptions which direct students to particular textbook or workbook materials.

2 Course Information

NATIONAL INCOME AND PUBLIC POLICY (1D.1)

Professor Allen C. Kelley
Fall 1977

Department of Economics
Duke University

General Information

The goal of this course is to train the student to apply the simple tools of economic analysis to current problems. Three books are required:

1) Campbell McConnell, Economics (6th Edition)
2) Robert Bingham, Study Guide to Accompany McConnell: Economics
3) Richard Attiyeh, Allen C. Kelley, and Keith G. Lumsden, Macroeconomics Lecture Outline

The McConnell book is the primary text for the course. The A/K/L Lecture Outline is the secondary text. The study guide will be used in conjunction with the TIPS system (explained below), and may also be used by students on their own to ensure mastery of the material contained in the McConnell text.

Course Requirements

1. There will be two unit examinations covering the materials contained primarily in McConnell, the A/K/L Outline, and the lectures. The date of the first examination is October 27. The second examination will take place during the Final Examination Period.

2. Each student will participate in a weekly discussion session. These sessions will be devoted primarily to covering materials with which students are having some difficulty, and providing alternative interpretations of the materials covered in the lectures and the texts.

TIPS (Teaching Information Processing System)

TIPS will be used to provide feedback and individualized assignments to students, as well as information about the progress of the class as a whole for the instructors.

TIPS will not be used 'routinely' for grading, although

a) some students performing exceptionally well on TIPS surveys will likely be provided alternative 'options' in lieu of taking course examinations (e.g., writing papers, tutoring, leading review sessions...); and

b) some students doing quite well on the TIPS surveys will likely be provided the option of including some of their TIPS survey scores, with the midterm and final examination grades, in determining their final course grade.

Details on these options will be provided throughout the semester.

All student reports for the TIPS system will be distributed in the TIPS boxes located in the hallway across from Room 306 in the Social Science Building. The TIPS reports will typically be available after 10:00 AM on the day following the survey.

Discussion Section Assignments

Discussion section assignments will be made by the TIPS system based on time and day preferences indicated by each student on the first day of class. Students who indicate their time and day preference on September 6th, should pick up their TIPS report indicating their discussion section assignment by September 7th, from the TIPS boxes mentioned above. Students who attend class for the first time on Thursday, September 8th, or who for some reason did not obtain a discussion section assignment, should contact Ms. Maxine Snell, Room 215, Social Science. All questions pertaining to discussion assignments, or to TIPS administrative matters, should be directed to Ms. Snell. Her phone number is 684-4228.

TIPS Survey 'Debriefing Sessions'

There will be 'debriefing' sessions on the TIPS surveys held on Friday afternoon following the Thursday TIPS survey. Attendance at these sessions is optional. Time and place will be announced during the Thursday lecture.

3 Course Management Plan for Macro Units 1 - 4

Preliminary Course Agenda Through the First Mid-Term Examination

Week of	Lecture Topics	A/K/L	McConnell	TIPS Survey	Special Activities
9/6-9/11	L1 TIPS Briefing and Movie Course Organization and Goals Pre-Test of Quantitative Skills		Ch. 1, pp. 22-27	9/6 #0	Specially organized small-group sessions to review quantitative skills useful to understanding Economics 1D. Sessions arranged through TIPS program.
	L2 The Economic Problem and the Elements of Supply and Demand Analysis	1.1	Ch. 3 (omit 47-49)		
9/12-9/18	L3 Supply and Demand Analysis Circular Flow Models National Income Accounting	1.1, 1.2	Chs. 4, 9		
	L4 Valuing Actual and Potential Output Economic Policymaking	1.3, 1.4		9/15 #1	-TIPS debriefing session, 9/16.
9/19-9/25	L5 Model Construction	2.1	Chs. 7, 8, 10, 11		
	L6 The Consumption Function Simple Income-Expenditure Model	2.2		9/22 #2A	-TIPS debriefing session, 9/23.
9/26-10/2	L7 Solving and Interpreting the Simple Income-Expenditure Model	2.3	Ch. 12		-Special review sessions for students having difficulty with model construction; arranged through TIPS program.
	L8 The Economy in Disequilibrium--Stability, and Multipliers	2.4		9/29 #2B	-TIPS debriefing session, 9/30.
10/3-10/9	L9 Aggregate Demand, Unemployment, the CNP Gap, and Okun's Law	3.1	Ch. 12, pp. 368-72		-Student-to-student tutoring on simple income-expenditure model, arranged through TIPS program.
	L10 Aggregate Demand, Unemployment, Inflation, and the Phillips Curve	3.2		10/6 #3	-TIPS debriefing session, 10/7. -Class party, 10/9.

11

12

10/10-10/16	L11 Fiscal Policy and the Social Welfare Function	4.1	Chs. 6, 13		-Student-to-student tutoring on expanded income-expenditure model, arranged through the TIPS program.
	L12 Fiscal Policy and the Balanced Budget Multiplier	4.2		10/13 #4a	-TIPS debriefing session, 10/14.
10/17-10/23	L13 Fiscal Policy and Choosing the Size of the Budget Deficit or Surplus	4.3	Ch. 13		-Small-group special sessions on elements of the income-expenditure model, and policymaking, arranged through the TIPS program.
	L14 Fiscal Policy and the Concepts of the Full Employment Surplus and the Fiscal Drag	4.4		10/20 #4b	-TIPS debriefing session, 10/21.
10/24-10/30	L15 Review Mid-Term Examination (October 27)				-Examination results will be back by 10 AM, 10/28, in the TIPS boxes. Post-examination debriefing sessions will be held throughout Friday; times to be announced.

Note: Student-to-Student tutorings are small groups (usually no more than five students) of students meeting to discuss particular aspects of the course. Those students diagnosed on TIPS surveys as having a solid mastery of the course are provided the option of tutoring in lieu of taking all or a part of the course examination. Those students diagnosed as having some difficulty with one or more of the key concepts of the course are invited to attend particular tutorial sessions.

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TIPS Instructional Unit Number 0

Instructional Unit	Basic Macroeconomic Concepts
Concept Areas	Market Behavior National Product -- Definition and Accounting Nominal and Real GNP Economic Policy Making
Contents	Objectives TIPS Survey (& Answer Key) Listing of Prescriptions and Decision Rules Sample Student Reports

OBJECTIVES

BASIC MACROECONOMIC CONCEPTS

Market Behavior

...define macroeconomics
...define commodity
...define transaction
...define price
...define a market demand curve
...indicate why a market demand curve is normally downward sloping
...identify those factors which influence the demand curve for a commodity
...given the graph of two demand curves, identify which of the graphs depicts greater demand for the commodity
...define a market supply curve
...indicate why a market supply curve is normally upward sloping
...identify those factors which influence the supply curve of a commodity
...define market equilibrium
...indicate why it is necessary that the quantities demanded and supplied at that price be equal in order for the market price to be at an equilibrium
...given a demand schedule and a supply schedule, identify the equilibrium price and quantity
...define excess demand
...given an example where the quantity demanded by consumers exceeds the quantity supplied, identify the adjustment that will take place in the market
...define competition among buyers
...given an example where for a given price, the quantity supplied exceeds the quantity demanded, identify the adjustment that will take place in the market
...define excess supply
...define competition among sellers
...given a graph of a supply and a demand curve, identify the equilibrium price and quantity
...identify several factors which can result in price regidity
...given an example of a market where the price is fixed, indicate how it is possible for the amounts bought and sold to be equal, but the quantities demanded and supplied not to be equal
...identify what condition will exist if the fixed price is below the free market equilibrium price
...given an example containing a price ceiling imposed on the market, identify the resulting condition
...identify what condition will exist if a fixed price is imposed in a market above the free market equilibrium price
...given an example containing a price support imposed on the market, identify the resulting condition
...identify the conditions under which maket disequilibrium can take place
...identify examples of factors which may lead to market disequilibrium
...given graphs of two disequilibrium situations, identify the case where the amount sold is that which is demanded by consumers, as compared with the situation where the amount sold is that which is supplied by producers

Circular Flow

...given an example, indicate how a household can act as a consumer as well as a producer

...for a simplified economy, identify the two types of markets examined in macroeconomics
...label a simple circular flow diagram containing goods and services, expenditures and income

National Income and Product Accounting

...define GNP
...define rate of output
...define final goods and services
...define intermediate goods and services
...given an example, apply technically the concept that the measurement of GNP can be accomplished by summing the value of all final goods and services
...indicate the reason why final goods and services must exclude intermediate goods and services when one measures aggregate GNP
...given an example, calculate the GNP
...define the value-added method for deriving GNP
...given an example, calculate GNP using the value-added method

Income Equals Expenditure

...define primary factors of production
...given an example, identify those factors of production which are considered primary
...define income
...indicate why a producer's value added is equal to the sum of its payments to primary factors
...define gross profit
...indicate why income derived from the sale of final goods and services (GNP) must equal the sum of factor payments
...indicate why the concept gross national product equals gross national income equals gross national expenditure
...label a circular flow diagram including the flow of expenditure for final goods and services and the flow of income payments for primary factors of production

Distribution of National Income

...identify the concept that individually or collectively all factors of production are owned by households
...define disposable personal income
...define capital consumption allowances
...define undistributed corporate profits
...define dividends
...define net profits in terms of gross profits and capital consumption allowances
...identify the two components which are included in business retained earnings
...identify the components of total tax revenue to the government
...given an example, identify the indirect business tax
...given an example, identify the transfer payment included in the example
...given a table with gross national income and its components, identify whether the individual components are additions or deductions from gross national income
...identify the components of disposable income of households
...given the income half of the detailed circular flow diagram, define GNP in terms of an economy including government, businesses, and households

Components of Total Expenditure

...define consumption expenditure
...define saving
...indicate how household saving is made available to government and businesses
...define gross investment expenditure
...identify examples of several different forms of gross investment expenditure
...define net investment expenditure
...indicate how investment expenditure is financed
...identify two possible uses of gross investment expenditure
...define government expenditure
...identify two forms of government expenditure
...indicate two ways that government expenditure is financed
...define net exports
...define GNP in terms of an economy including government, businesses, households, and foreign sector
...given a detailed circular flow diagram, label the expenditure and income components
...indicate how aggregate expenditure and income are kept in balance
...define personal saving
...indicate how purchases of assets by households provides funds for the government, business and foreign sectors
...indicate, given a realistic economic situation, how the transfer of funds takes place between sectors
...given a detailed circular flow diagram, label the flow of funds between sectors

Nominal and Real GNP; Actual and Potential GNP

...given an example, apply technically the concept that different goods and services are counted by weighting each unit in proportion to its price so that GNP is the sum over all final goods and services of the price times the quantity of each
...indicate why it is useful to measure GNP
...define real GNP
...define nominal GNP
...indicate why real GNP is the same as GNP in constant prices
...given an example of an economy with only two goods for two years, calculate this economy's real and nominal GNP
...define the average price index
...identify another name for average price index
...define real GNP in the current year in terms of nominal GNP and the average price index
...define inflation and deflation
...given an example, apply generally the concept that inflation is associated with nominal GNP rising faster than real GNP
...define labor productivity
...identify the relationship between labor productivity and GNP
...define potential GNP
...identify the determinants of potential GNP
...indicate what factors may cause actual GNP to be less than potential GNP
...indicate under what conditions actual GNP equals potential GNP
...indicate at what unemployment rate actual GNP is considered to be equal to potential GNP
...define labor force

...Indicate how growth in the labor force can be attained
...Indicate how growth in labor productivity can be attained
...Indicate why in the short run potential GNP is fixed where in the long run potential GNP can change
...identify the events with which short run economic policy is primarily concerned
...Identify the events with which long run economic policy is concerned
...define unemployment rates
...define frictional unemployment
...define structural unemployment
...given an example with high unemployment of labor, indicate how this is related to the employment of capital goods and land

Economic Policy Making

...identify areas of government policy
...define instrument variables
...define target variables
...identify the relationship which exists between instrument and target variables
...identify what aspects of government policy are within the province of the professional economist
...Identify two goals of the 1946 Full Employment Act
...define an economic trade-off
...identify what element of decision-making is required to make a policy decision when trade-offs exist
...define a social welfare function
...define positive statements
...define normative statements
...given examples, identify positive and normative statements
...define economic model
...identify those factors involved in constructing economic models
...identify the main reason why economists disagree on the validity and/or usefulness of alternative models

BASIC MACROECONOMIC CONCEPTS

TIPS SURVEY O

Professor Allen C. Kelley
Duke University

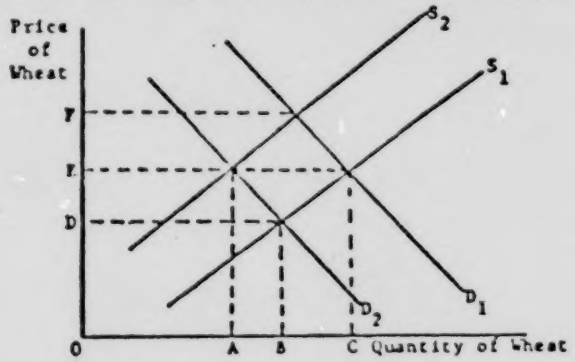
Economics 1.D
Fall 1977

Name:_____ Social Security #:_____

Select the best answer from the alternatives given. Place the number of the correct answer in the blank at the left. After completing the survey, transfer these numbers to the data processing sheet, and complete the indicated identification on that sheet.

Market Behavior

Answer questions 1 through 5 on the basis of the following diagram which shows demand and supply conditions in the competitive market for wheat.



___1. If the initial demand and supply curves are D_1, and S_1, equilibrium price and quantity will be:
1) OE and OB
2) OE and OA
3) OE and OC
4) OD and OB

___2. If the supply curve moved from S_1 to S_2, this implies:
1) supply has increased and price has risen to OF.
2) supply has decreased and equilibrium quantity has decreased.
3) supply has increased and equilibrium quantity has decreased.
4) there has been an increase in the quantities supplied and demanded.

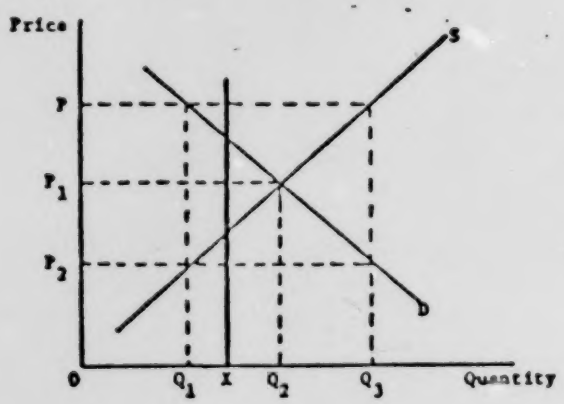
___3. If supply is S_2 and demand D_1, then
1) OE might represent a price ceiling which would result in a shortage of AC.
2) OE might represent a price support which would result in a surplus of AC.
3) OC will be sold given the desires of producers to maximize sales given a fixed price.
4) OA will be sold, since buyers will be unwilling to accept the higher price dictated by the intersection of S_2 and D_1.

___4. Other things being unchanged (ceteris paribus), a movement of the demand curve from D_1 to D_2 might be caused by:
1) a decline in the price of the basic raw material used in producing wheat.
2) an increase in the price of wheat.
3) an increase in the price of corn.
4) a decline in buyers' incomes.

___5. Other things being unchanged (ceteris paribus), a movement of the supply curve from S_1 to S_2 might be caused by:
1) a decline in the price of the basic raw material used in producing wheat.
2) an increase in the price of wheat.
3) An increase in the price of farm machinery used to harvest wheat.
4) an increase in buyers' incomes.

Answer questions 6-8 on the basis of the following economic situation.

The government has imposed a price support and a supply limitation on the orange growing industry. This agricultural price support scheme specified that the total supply for the entire industry could only be OX, as represented in the graph below. The support price set by the government is OP. Since D is the demand curve for oranges, consumers will purchase OQ_1 units of oranges.



___6. What quantity of oranges will the government have to purchase so there will be no excess supply within the context of its total agricultural program.
1) XQ_3
2) Q_1X
3) OQ_2
4) Q_1Q_2

___7. If there was a price support, but no supply limitation, what would be the amount of excess supply?
1) Q_1X
2) XQ_3
3) Q_1Q_2
4) Q_1Q_3

___8. If there were no supply limitations or price supports, what would be the prevailing price and quantity for the product?
1) OP_2, OQ_3
2) OP, OX
3) OP_1, OQ_2
4) OP, OQ_1

___9. A recent cold spell in Florida has done extensive damage to the citrus crop. As a result, California citrus products are commanding high prices. Which of the following statements best explains the situation?
1) The supply of Florida oranges has decreased, causing the supply of California oranges to increase and their prices to rise.
2) The supply of Florida oranges has decreased, causing their price to increase and the demand for the substitute California oranges to also increase.
3) The demand for Florida oranges has been reduced by the freeze, causing a greater demand for the California oranges and an increase in their price.
4) The demand for Florida oranges has been reduced, causing their prices to fall and therefore increasing the demand for the substitute California oranges.

National Product--Definition and Accounting

___10. The sum of all expenditures for final goods and services is the equivalent of:
1) all income paid out as wages and salaries.
2) the amount of money in circulation.
3) the total of all "values added"
4) disposable income.

___11. Which of the following is <u>not</u> a primary factor of production?
1) labor
2) profits
3) land
4) capital

___12. The concept of "income" refers to:
1) the total receipts for all final goods and services.
2) the payments to all inputs.
3) the value of intermediate goods and services.
4) the payments made for the resources which owners supply in the production of output.

___13. Gross National Product equals:
1) gross national expenditure but not gross national income.
2) the sum of investment and consumption expenditure.
3) gross government expenditure.
4) both gross national expenditure and gross national income.

<u>Nominal and Real GNP</u>

___14. The change in real GNP and the change in nominal GNP differ because the change in real GNP:
1) excludes capital consumption allowances.
2) is adjusted for changes in the price level.
3) is adjusted for changes in the volume of intermediate transactions.
4) is adjusted for changes in product quality.

___15. If a price index has a value of 126 in the current year, then:
1) prices are 126 percent higher on average than in the base year.
2) prices are .126 times higher on average than in the base year.
3) prices are 26 percent higher on average than in the base year.
4) money (nominal) GNP must be inflated to determine real GNP.

___16. A food cooperative recently argued that the standard of living of its members was falling. A critic argued this could not be true because the members had been acquiring significant increases in their nominal incomes. Could the critic be correct?
1) Yes, if consumer price increases are less than increases in nominal incomes.
2) Yes, if the coop members initially have large nominal incomes.
3) No. Real incomes may fall if consumer price increases are less than increases in nominal incomes.
4) Yes. Real incomes will rise as nominal incomes rise, causing greater purchasing power.

Actual and Potential GNP

__17. The rate of output that would result if the economy's labor were fully utilized is called:
1) GNP gap
2) labor productivity
3) actual GNP
4) potential GNP

__18. An Economics 1 student, employed as an intern at the Council of Economic Advisors, provided his boss with a graph showing Actual GNP exceeding Potential GNP for a period of six months over the period 1955-1977. Is it possible for his graph to be correct?
1) Yes, because there is a systematic bias during periods of full employment for real (deflated) actual GNP to be overstated when referenced to nominal potential GNP.
2) Yes, because conceptually potential GNP can be exceeded.
3) No, since there is a systematic bias during periods of full employment for nominal actual GNP to be overstated when referenced to real (deflated) potential GNP.
4) No, because it is not conceptually possible to have more than the potential level of GNP.

__19. The schedule of "Potential GNP" can shift upward if there is:
1) an increase in the level of "structural" unemployment.
2) an increase in the proportion of the labor force which is productively employed, unemployment rates remaining constant.
3) a decrease in the level of "frictional" unemployment.
4) a decrease in the ratio of output per laborer, adjusted for changes in the utilization of capital.

Economic Policy Making

__20. The unemployment rate in Washington, D.C. is 11%. In order to stimulate employment, the government has increased expenditures on various work programs and subsidized existing job training programs. In reviewing the above economic policy, identify the government's "target variable."
1) unemployment rate
2) work programs
3) government expenditures
4) job training programs

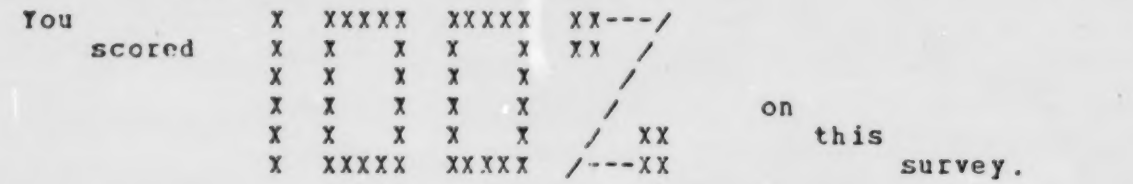
ANSWER KEY

1. 3
2. 2
3. 1
4. 4
5. 3
6. 2
7. 4
8. 3
9. 2
10. 3
11. 2
12. 4
13. 4
14. 2
15. 3
16. 1
17. 4
18. 2
19. 3
20. 1

TIPS
Student Progress Report
Principles of Economics (10.1)
Professor Allen C. Kelley

All-right, Alice
ID # 000111111
Section # 1, 9:00 AM Monday
Section Leader: Mark Bebensee

Survey # 0 (08/17/77)
Basic Macroeconomic Concepts



For your records, the correct answers for the 20 questions on this survey are: 3 2 1 4 3 2 4 3 2 3 2 4 4 2 3 1 4 2 3 1.

You are either incredibly lucky or you have a good general knowledge of the material. At any rate, your methods are successful. Continue to move ahead in the same manner.

TIPS
Student Progress Report
Principles of Economics (1C.1)
Professor Allen C. Kelley

Eighty-percent, Alvin
ID # 022222222
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 0 (08/17/77)
Basic Macroeconomic Concepts

You correctly answered 15 out of the 20 questions on this survey. The following table summarizes your answers as well as the correct answers for this survey. You are urged to make sure that you understand the nature of any incorrect responses which you made.

T A B L E O F R E S P O N S E S

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.	3	3	8.	3	3	15.	2	3
2.	2	2	9.	1	2	16.	1	1
3.	1	1	10.	3	3	17.	4	4
4.	4	4	11.	2	2	18.	3	2
5.	4	3	12.	4	4	19.	3	3
6.	2	2	13.	4	4	20.	3	1
7.	4	4	14.	2	2			

We had hoped for a somewhat better performance, although your score was not really that low for a first survey. To ensure that you are on the right track, I would recommend the following review items.

--Review McConnell, pp. 59 - 75 and A/K/L, Sections 1.1.1. and 1.1.2.a., b.

--You seem to be having difficulties with the determinants of supply and demand. Examine in McConnell, p. 78, q.'s 6 - 8. Additionally, in Bingham, consider q. 9 on p. 26.

--You appear to have had particular difficulty with the application question concerning market behavior. Review McConnell, Ch. 4 and A/K/L, sections 1.1.1, 1.1.2, and 1.1.3.

--Review McConnell, pp. 166 - 169 and A/K/L Sections 1.3.1. and 1.3.2. Examine q. 13 on p. 187 in McConnell. Additionally, in Bingham, q. 1 on p. 62, and T - F q. 2 on p. 65 are relevant to your missed questions.

--Review McConnell, pp. 193 - 197 and A/K/L, Sections 1.3.3. and 1.3.4. Examine in Bingham q. 5 on p. 72, T - F q. 12 on p. 73.

--Review A/K/L, Section 1.4.

--An important point must be made in regard to an analysis of the questions you missed on this survey. Economics involves learning facts and principles, PLUS the ability to apply these principles

Eighty-percent, Alvin

to new situations. The latter is the more difficult goal. You correctly answered 4 out of the 6 application questions on this survey (q's 6 - 9, 16 and 18). Your performance on this type of question could benefit from some more intensive work on these materials. Don't get discouraged. It may take several weeks to get 'tuned in' to this learning objective. We will continue testing you on application problems with increasing degrees of difficulty. If you have any problems, see Carol Swartz.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey.

TIPS
Student Progress Report
Principles of Economics (1C.1)
Professor Allen C. Kelley

No-show, Joe
ID # C00004444
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 0 (08/17/77)
Basic Macroeconomic Concepts

Our records indicate that you did not take the survey on 08/17/77. As a result, at this time we do not have any direct indication of your understanding of the material covered by this survey. In these situations, we assign certain readings or problems which assure us that you are familiar with the minimum tools needed to master this aspect of the course. This assignment is not a penalty. Rather, it is a means of ensuring that we have provided you with the tools needed to master more advanced concepts.

--Review A/K/L, sections 1.1, 1.2, 1.3, and 1.4.

--In McConnell, review pp. 59 - 75, 166 - 185, and 193 - 197. Examine q.'s 1 - 3, 5 - 8, 10, and 11 on pp. 77 - 78; also q.'s 3, 4, 6, and 11 - 14 on pp. 185 - 188.

--Additionally, in Bingham, examine q. 13 on p. 24; q. 9 on p. 26; q. 1 on p. 62; T-F q.'s 1, 2, and 4 - 10 on pp. 64 - 65; q.'s 3 - 5 on p. 65; q. 5 on p. 72; T-F q. 12 on p. 73.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey.

***** DIAGNOSTIC LISTING OF STUDENT REPORT FORMAT NUMBER 1 *****

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

Survey # 0 (08/17/77)
Basic Macroeconomic Concepts

A [20 thru 20 on G151]

```
A        You          X  XXXXX  XXXXX  XX---/
A            scored   X  X   X  X   X  XX  /
A                     X  X   X  X   X     /
A                     X  X   X  X   X    /        on
A                     X  X   X  X   X   /  XX        this
A                     X  XXXXX  XXXXX  /---XX             survey.
```

A
A For your records, the correct answers for the 20 questions on this
A survey are: 3 2 1 4 3 2 4 3 2 3 2 4 4 2 3 1 4 2 3 1.
A
B [0 thru 19 on G151]
B You correctly answered ** out of the 20 questions on this survey.
B The following table summarizes your answers as well as the correct
B answers for this survey. You are urged to make sure that you
B understand the nature of any incorrect responses which you made.
B
B T A B L E O F R E S P O N S E S
B

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.		3	8.		3	15.		3
2.		2	9.		2	16.		1
3.		1	10.		3	17.		4
4.		4	11.		2	18.		2
5.		3	12.		4	19.		3
6.		2	13.		4	20.		1
7.		4	14.		2			

B
C [-1 thru -1 on G151]
C Our records indicate that you did not take the survey on 08/17/77.
C As a result, at this time we do not have any direct indication of
C your understanding of the material covered by this survey. In these
C situations, we assign certain readings or problems which assure us
C that you are familiar with the minimum tools needed to master this
C aspect of the course. This assignment is not a penalty. Rather,
C it is a means of ensuring that we have provided you with the tools
C needed to master more advanced concepts.
C
D [20 thru 20 on G151]
D You are either incredibly lucky or you have a good general knowledge
D of the material. At any rate, your methods are successful. Continue
D to move ahead in the same manner.
E [15 thru 17 on G151]
E We had hoped for a somewhat better performance, although your score was

```
E  not really that low for a first survey.  To ensure that you are on the
E  right track, I would recommend the following review items.
F  [11 thru 14 on G151]
F  Your performance on this survey is well below our expectations.
F  We realize that it is early in the course, and that this is a
F  somewhat difficult survey; however, economics is a 'cumulative'
F  subject and falling behind on basic building blocks is a handicap
F  to moving ahead.  In looking over the distribution of your responses,
F  I would recommend that you complete the following review items.
G  [0 thru 10 on G151]
G  While this is the first survey, and a tough one at that, your
G  performance is not up to the threshold required to move ahead.
G  Let's work together to get this problem rectified immediately.
G  Economics is a 'cumulative' subject.  Falling behind now can be
G  hazardous to continued progress.  It is imperative that you learn
G  the basic building blocks NOW.  There will be a special session
G  in room          on                    at
G  Please bring your survey, book, and workbook.  We'll use this
G  opportunity to 'debrief' this survey.  Attendance will be taken.
G  Also, before the session, you should complete the follcwing
G  review items.
I  [0 thru 4  on G152 or 0 thru 1 on G153]
I  --Review McConnell, pp. 59 - 75 and A/K/L, Sections 1.1.1. and
I    1.1.2.a., b.
J  [0 thru 4 on G152]
J  --Examine q.'s 1, 2, and 3 on p. 77 and q. 11 on p. 78 in McConnell.
J    Additionally, in Bingham, consider q. 13 on p. 24.
K  [0 thru 1 on G153]
K  --You seem to be having difficulties with the determinants of supply
K    and demand.  Examine in McConnell, p. 78, q.'s 6 - 8.
K    Additionally, in Bingham, consider q. 9 on p. 26.
L  [0 thru 3 on G154]
L  --Review McConnell, pp. 71 - 72 and A/K/L, Sections
L    1.1.2.c., d. and 1.1.3.  Examine q.'s 5 and 10 on pp. 77 - 78
L    in McConnell.
M  [0 thru 0 on G155]
M  --You appear to have had particular difficulty with the application
M    question concerning market behavior.  Review McConnell, Ch. 4
M    and A/K/L, sections 1.1.1, 1.1.2, and 1.1.3.
N  [0 thru 3 on G156]
N  --Review McConnell, pp. 170 - 185 and A/K/L, Sections 1.1.4.,
N    1.2.  Examine in McConnell, pp. 185 - 188, q.'s 3, 4, 6, 11, 12,
N    14.  Additionally, in Bingham, consider T - F q.'s 1, 4 - 10 on
N    pp. 64 - 65 and q.'s 3, 4, 5 on p. 65.
O  [0 thru 2 on G157]
O  --Review McConnell, pp. 166 - 169 and A/K/L Sections 1.3.1.
O    and 1.3.2.  Examine q. 13 on p. 187 in McConnell.  Additionally,
O    in Bingham, q. 1 on p. 62, and T - F q. 2 on p. 65 are relevant
O    to your missed questions.
P  [0 thru 2 on G158]
P  --Review McConnell, pp. 193 - 197 and A/K/L, Sections 1.3.3.
P    and 1.3.4.  Examine in Bingham q. 5 on p. 72, T - F q. 12 on
P    p. 73.
Q  [0 thru 0 on G160]
Q  --Review A/K/L, Section 1.4.
R  [-1 thru 0 on G151]
R  --Review A/K/L, sections 1.1, 1.2, 1.3, and 1.4.
R
R  --In McConnell, review pp. 59 - 75, 166 - 185, and 193 - 197.
R    Examine q.'s 1 - 3, 5 - 8, 10, and 11 on pp. 77 - 78; also q.'s
```

R 3, 4, 6, and 11 - 14 on pp. 185 - 189.
R
R --Additionally, in Bingham, examine q. 13 on p. 24; q. 9 on p. 26;
R q. 1 on p. 62; T-F q.'s 1, 2, and 4 - 10 on pp. 64 - 65; q.'s
R 3 - 5 on p. 65; q. 5 on p. 72; T-F q. 12 on p. 73.
H [0 thru 4 on G159]
H --An important point must be made in regard to an analysis of the
H questions you missed on this survey. Economics involves learning
H facts and principles, PLUS the ability to apply these principles
H to new situations. The latter is the more difficult goal.
H You correctly answered ** out of the 6 application questions on
H this survey (q's 6 - 9, 16 and 18). Your performance on this
H type of question could benefit from some more intensive work on
H these materials. Don't get discouraged. It may take several
H weeks to get 'tuned in' to this learning objective. We will
H continue testing you on application problems with increasing degrees
H of difficulty. If you have any problems, see Mark Bebensee.
S [-1 thru 19 on G151]
S With respect to all suggested learning activities noted above, written
S assignments may be handed in to Mark Bebensee if you would like more
S feedback. This should be done within a week of the date of the survey.

** WE DO NOT HAVE THIS INFORMATION. IF NECESSARY, SEE YOUR INSTRUCTOR.

Inventory of Question Groupings for Survey # 0

G151 -- Macro Unit 1
ALL 20 QUESTIONS ON THE TEST
G152 -- Market Equilibrium: The Mechanics
QSTS 1,2,3,7,8
G153 -- Determinants Of Supply And Demand
QSTS 4,5
G154 -- Rationing Function Of Prices
QSTS 3,6,7,8
G155 -- Applications Of Market Behavior
QSTS 9
G156 -- National Product
QSTS 10,11,12,13
G157 -- Nominal And Real Gnp
QSTS 14,15,16
G158 -- Actual And Potential Gnp
QSTS 17,18,19
G159 -- Application Level Questions
QSTS 6,7,8,9,16,18
G160 -- Economic Policy Making
QSTS 20

TIPS Instructional Unit Number 1

Instructional Unit	Some Basic Tools and Terminology in the Study of Economics
Concept Areas	Reading a Graph and Some Basic Terminology Graphs and the Equation for a Line Basic Algebra of Intersecting and Non-Intersecting Lines Percents
Contents	Objectives TIPS Survey (& Answer Key) Listing of Prescriptions and Decision Rules Sample Student Reports

OBJECTIVES

SOME BASIC TOOLS AND TERMINOLOGY IN THE STUDY OF ECONOMICS

Reading a Graph and Some Basic Terminology

...given three lettered points on a two-dimensional, numerically scaled graph, identify the coordinates of one of the points
...given a line on a two-dimensional, numerically scaled graph, identify the coordinates of at least two points on this line (the line will pass through the two axes in the example)
...given a line on a two-dimensional, numerically scaled graph, identify (write the numerical value corresponding to) the x-intercept, y-intercept, and slope of this line (the line will pass through the two axes in the example)
...given several graphs with y either directly (positively), indirectly (negatively) or not related to x, indicate the relevant relationship when the above terms are employed.
...given the graphs of two lines, identify the point of intersection of the two lines
...given the graphs of a curve and a line, identify the point of tangency between the curve and the line
...given the graph of a curve, identify the maximum and minimum points and the slope at these points
...given a graph of two variables in two-dimensional space with numerical coordinates, identify whether the relationship between the two variables is direct or inverse; and extract data from the graph

Graphs and the Equation for a Line

...given a numerically scaled graph with a positively sloped line which passes through the y-axis, identify the equation of that line (the responses will be expressed in the traditional $y = a + bx$ form)
...given a numerically scaled graph with a negatively sloped line which passes through the y-axis, identify the equation of that line from four responses written in traditional form
...given a numerically scaled graph with a positively sloped line which passes through y-axis, identify the equation of that line from four responses which are in non-traditional form
...given the equation of a line, be able to graph this line on a two-dimensional, numerically scaled graph
...given the equation of a line expressed in traditional form, identify (write the numerical values corresponding to) the x-intercept, y-intercept, and slope of this line

Basic Algebra of Intersecting and Non-intersecting Lines

...given a linear algebraic equation with one unknown, be able to solve (write the solution) for the unknown
...given the graphs in the first quadrant of several lines, identify whether, with respect to a "reference" line, other lines involve a change in the intercept, the slope, or both
...given a graph of two intersecting lines written in the traditional form $y = a + bx$, indicate that this intersection is the only common point to both and the only "solution" common to both lines

...given the graph of two intersecting lines, with their equations explicitly written in traditional and numeric form, be able to solve simultaneously (write the solution) for their point of intersection, and recognize that the intersection is the simultaneous solution of these lines

...given two linear algebraic equations expressed with numeric parameters and with two unknowns, be able to solve simultaneously (write the solutions) for these unknowns

...given the equations of a line, identify what would happen to the slope, y-intercept, or both if one of the components of the equations were changed

Percents

...given a numerical example, including the retail price of an item and the percent sales tax, calculate the total cost of purchase

...given a numerical example, including the total cost of an item and the percent tax, calculate the original price of the item without the tax

...given a numerical example, including a specific amount of savings in a bank and a specific interest rate, calculate the simple interest accrued in a given time period

...given a numerical example, including a specific amount of savings in a bank and a specific interest rate, calculate the compound interest accrued over a two year period

...given the N.C. Income Tax Schedule, calculate an individual's tax payments on his earned income in a given year

SOME BASIC TOOLS AND TERMINOLOGY IN THE STUDY OF ECONOMICS

TIPS SURVEY / 1

Professor Allen C. Kelley
Duke University

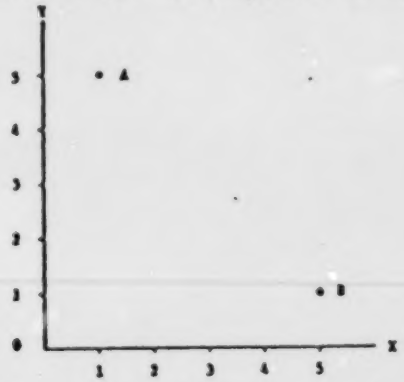
Economics 1.D
Fall 1977

Name: _____ Social Security # : _____

Select the best answer from the alternatives given. Place the number of the correct answer in the blank at the left.

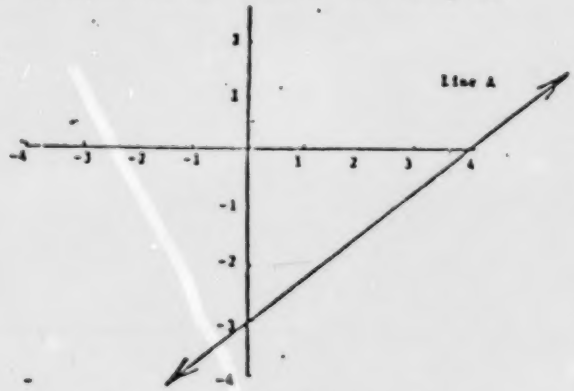
Reading a Graph and Some Basic Terminology

____1. In the graph the point (1,5) corresponds to what letter?



1) A
2) B

____2. Identify the coordinates of two points on Line A in the graph at the right.



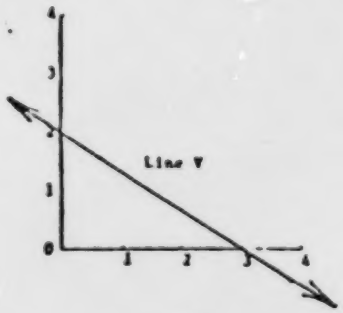
1) (4,0); (-3,0)
2) (4,0); (0,-3)
3) (-3,0); (0,4)
4) (0,4); (0,-3)

Answer the next three questions on the basis of the graph below:

____3. Identify the x-intercept of Line V.

1) 0
2) 3
3) 2
4) 4

____4. Identify the y-intercept of Line V.

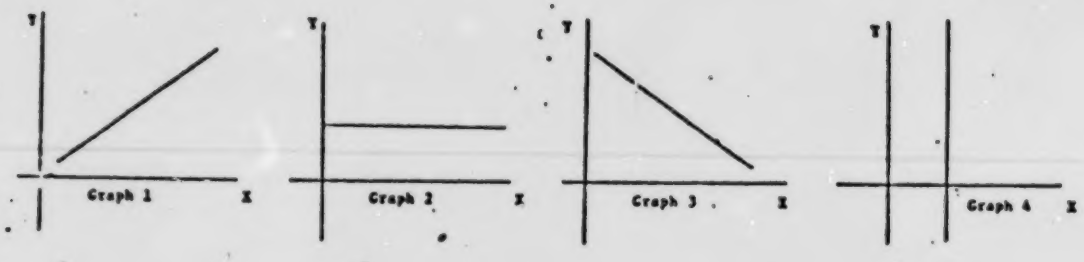


1) 2
2) 3
3) 0
4) -2

____5. Calculate the slope of Line V.

1) -2/3
2) 2/3
3) -3/2
4) 3/2

Answer the next three questions on the basis of the following graphs:



____6. The amount of y is unrelated to the amount of x in graph:

1) 1
2) 2
3) 3
4) 4

____7. The amount of y is directly or positively related to the amount of x in graph:

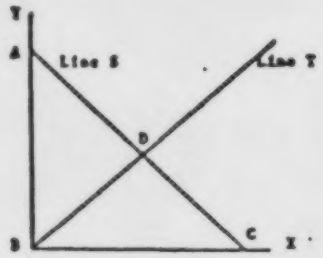
1) 1
2) 2
3) 3
4) 4

____8. The amount of y is inversely or negatively related to the amount of x in graph:

1) 1
2) 2
3) 3
4) 4

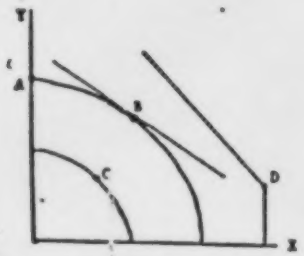
___9. What is the point of intersection of Line Segment S and Line Segment T in the graph at the right?

1) A
2) B
3) C
4) D



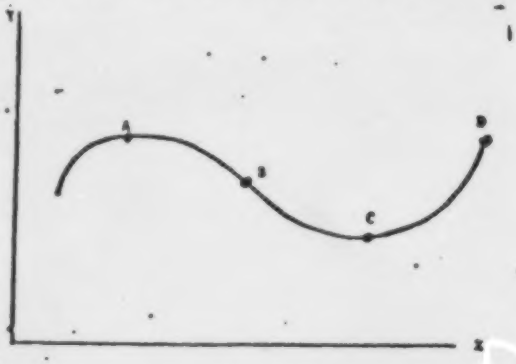
___ 10. In the graph to the right, which point corresponds to a point of tangency?

1) A
2) B
3) C
4) D



___11. In the graph to the right, at which point on the curve does Y reach a minimum?

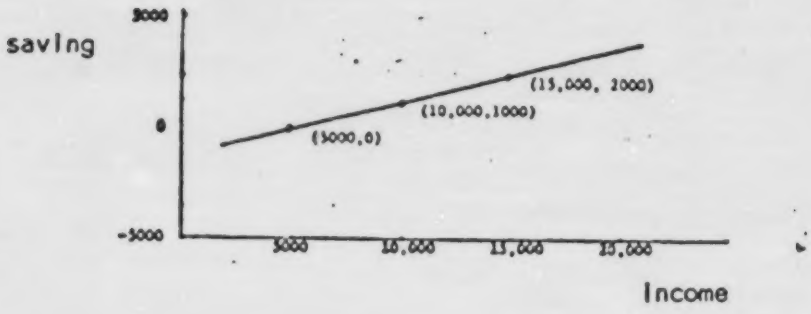
1) A
2) B
3) C
4) D



___12. On the previous diagram, what would be the slope of a line tangent to the curve at its minimum?

1) 0
2) 1
3 infinity
4) undefined

Answer the next three questions on the basis of this graph:



___13. When income increases, saving:

1) decreases
2) remains the same
3) increases
4) saving and income are not related

___14. If income were $20,000, saving would be

1) $1250
2) $1500
3) $2500
4) $3000

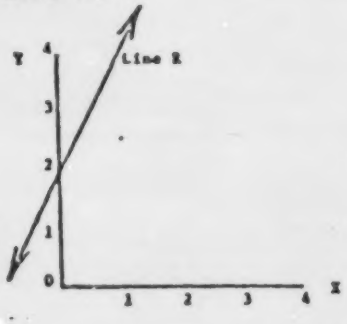
___15. The slope of the line relating saving and income is:

1) 5/1
2) 1/5
3) -5/1
4) -1/5

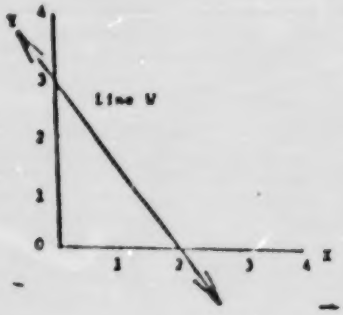
Graphs and the Equation for a Line

___16. Identify the equation of Line R.

1) y = 2 + x
2) y = 1 + (1/2)x
3) y = 2 + 2x
4) y = -1 + (1/2)x

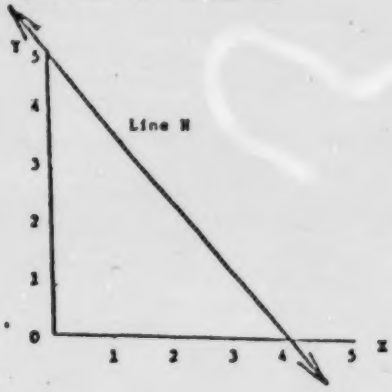


___17. Which of the following is the equation of Line W?



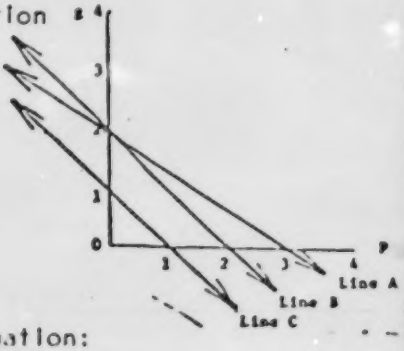
1) $y = 6 - 3x$
2) $y = -3 - (3/2)x$
3) $y = 3 + (3/2)x$
4) $y = 3 - (3/2)x$

___18. Which of the following is the equation of Line H?



1) $y = (-5/4)x + 5$
2) $y = (4/5)x - 4$
3) $y = 5 + (4/5)x$
4) $y = 4 + (-5/4)x$

___19. Which of the following lines is a graph of the equation $g = 2 - p$?



1) Line A
2) Line B
3) Line C
4) None of the above

Answer the next three questions on the basis of this linear equation:

$$y = 3 - (3/5)x$$

___20. The numerical value of the y-intercept is:

1) 0
2) 5
3) 3
4) 3/5

___21. The numerical value of the slope is:

1) 5/3
2) -5/3
3) 3/5
4) -3/5

___22. The numerical value of the x-intercept is:

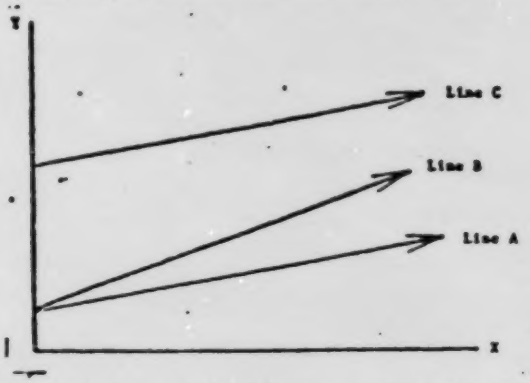
1) 0
2) 5
3) 3
4) 3/5

Basic Algebra of Intersecting and Non-Intersecting Lines

___23. Solve for "m" in the linear equation 9 + (4/7)m = 12

1) 3
2) 5
3) 12/7
4) 21/4

Answer the next two questions on the basis of this graph.



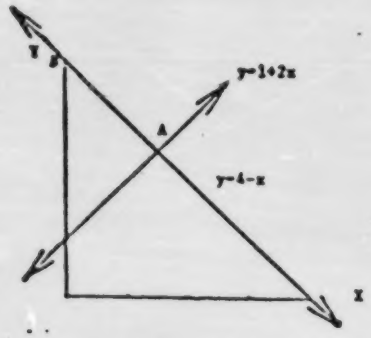
___24. A movement from Line Segment A to Line Segment B involves what changes?

1) a change in the slope only
2) a change in the intercept only
3) a change in both the slope and the intercept
4) neither a change in the slope nor the intercept

___25. A movement from Line Segment A to Line Segment C involves what changes?

1) a change in the slope only
2) a change in the intercept only
3) a change in both the slope and the intercept
4) neither a change in the slope nor the intercept

Answer the next two questions on the basis of this graph.



___26. The solution of the pair of simultaneous equations represented by the two lines is:

1) y = 1 + 2x
2) y = 4 - x
3) Point A
4) Point B

___27. In the graph for question 26, what are the values of x and y at Point A?

1) x = 5/2; y = 6
2) x = 1/3; y = 5/3
3) x = 3; y = 1
4) x = 1; y = 3

___28. Solve the following equations simultaneously for x and y:
y = -37 + 5x y = 15 - (3/2)x

1) x = 156/17, y = 151/17
2) x = 94/13; y = -11/13
3) x = 8; y = 3
4) x = 3; y = 8

___29. In the following equation solve for x: ax + b + d = 0, where a ≠ 0.

1) (b + d)/a
2) (-b - d)/a
3) (b + d)(a)
4) (-b - d)(a)

___30. In the following equation solve for y in terms of x: ax + by = c.

1) y = (c - ax)/b
2) y = (c + ax)/b
3) y = c - ax/b
4) (c + ax)(b)

___31. What would be the intercept on the y-axis of the equation in question 30?

1) c
2) (c)(b)
3) c/b
4) (c - ax)/b

___32. What would be the slope of the equation in question 30?

1) a
2) -a
3) a/b
4) -a/b

___33. In the following equation solve for y in terms of x and z:
$y = ay + bx + dz$, where $a \neq 1$.

1) $y = bx + [dz/(1 + a)]$
2) $y = bx + [dz/(1 - a)]$
3) $y = (bx + dz)/(1 + a)$
4) $y = (bx + dz)/(1 - a)$

___34. If the equation in question 33 were diagrammed with y treated as a function of x, what would be its intercept on the y-axis.

1) dz/(1 + a)
2) dz/(1 - a)
3) (dz)(1 + a)
4) bx/(1 - a)

___35. What would be its slope?

1) d/(1 - a)
2) d/(1 + a)
3) b/(1 - a)
4) (b)(1 - a)

___36. In question 33, if y is treated as a function of x, what would happen if the value of z changed?

1) The equation's slope would change.
2) The equation's y-intercept would change.
3) Both the slope and the y-interecept of the equation would change.
4) A change in z would not affect the equation.

Percents

___37. A buyer is considering the purchase of a car with a list price of $4,500.00. There is a 3% sales tax on the car. What would be the total cost of the car?

1) $4600
2) $4635
3) $4650
4) $5850

___38. A 25% admission tax is charged on a theater ticket. If the total price is $6.25, what was the price without the tax?

1) $4.75
2) $5.00
3) $5.25
4) $6.00

___39. Mr. Kotke has $150 in his Central Carolina Bank savings account. He is entitled to 5% interest per year on his savings. Calculate the interest Mr. Kotke will accrue in one year.

1) $5.00
2) $6.25
3) $7.50
4) $8.25

___40. In the above problem, calculate Mr. Kotke's savings after two years including his compound interest.

1) $157.50
2) $165.00
3) $165.38
4) $177.50

___41. Ms. Gleason earned $11,267 in North Carolina last year. According to the tax schedule below, how much state tax to the nearest dollar should Ms. Gleaso have paid the state?

TAX RATES

If Net Taxable Income Is		The Tax Is
Not over $2 000		3% of net taxable income
Over	but not over	
$2 000	$4 000	$ 60 + 4% of amt over $2 000
$4 000	$6 000	$140 + 5% of amt over $4 000
$6 000	$10 000	$240 + 6% of amt over $6 000
$10 000		$480 + 7% of amt over $10 000

1) $569
2) $887
3) $1269
4) $1367

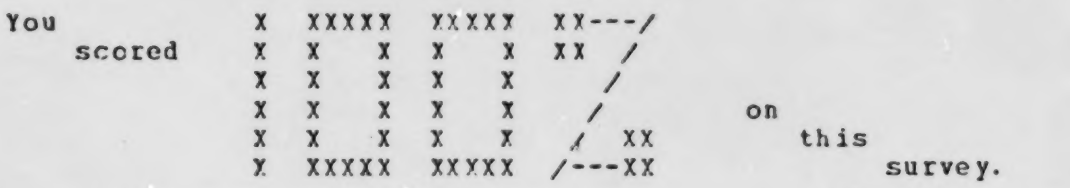
ANSWER KEY

Question	Answer
1.	1
2.	2
3.	2
4.	1
5.	1
6.	2
7.	1
8.	3
9.	4
10.	2
11.	3
12.	1
13.	3
14.	4
15.	2
16.	3
17.	4
18.	1
19.	2
20.	3
21.	4
22.	2
23.	4
24.	1
25.	2
26.	3
27.	4
28.	3
29.	2
30.	1
31.	3
32.	4
33.	4
34.	2
35.	3
36.	2
37.	2
38.	2
39.	3
40.	3
41.	1

TIPS
Student Progress Report
Principles of Economics (1E.1)
Professor Allen C. Kelley

All-right, Alice
ID # 000111111
Section # 1, 9:00 AM Monday
Section Leader: Mark Bebensee

Survey #1 (08/17/77)
Basic Tools and Terminology



For your records, the correct answers for the 41 questions on this survey are: 1 2 2 1 1 2 1 3 4 2 3 1 3 4 2 3 4 1 2 3 4 2 4 1 2 3 4 3 2 1 3 4 4 2 3 2 2 2 3 3 1.

Congratulations! We are very pleased to see that you have a firm command of the basic tools necessary to succeed in this course. We hope that you will apply yourself in this course and that it will be both challenging and enjoyable for you.

--You did very well on Survey 0 and appear to have a solid grasp of the basic graphic and mathematical concepts necessary to begin the study of the course. In view of this, begin reading...

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

Eighty-percent, Alvin
ID # C22222222
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 1 (08/17/77)
Basic Tools and Terminology

T A B L E O F R E S P O N S E S

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.	1	1	15.	4	2	29.	2	2
2.	2	2	16.	3	3	30.	2	1
3.	2	2	17.	4	4	31.	3	3
4.	1	1	18.	1	1	32.	4	4
5.	2	1	19.	2	2	33.	4	4
6.	2	2	20.	2	3	34.	2	2
7.	1	1	21.	4	4	35.	2	3
8.	3	3	22.	2	2	36.	2	2
9.	4	4	23.	4	4	37.	2	2
10.	4	2	24.	1	1	38.	2	2
11.	3	3	25.	1	2	39.	3	3
12.	1	1	26.	3	3	40.	1	3
13.	3	3	27.	4	4	41.	1	1
14.	4	4	28.	3	3			

You correctly answered 33 questions out of the 41 questions on this survey. The table above summarizes your answers as well as the correct answers for this survey. You are urged to make sure that you understand the nature of any incorrect responses which you made. Carefully review the following messages concerning those problems with which you appear to be having difficulty:

--If given two points on a line (r, s) and (t, u), then the slope b of this line is defined as: b = (u-s)/(t-r).
Slope = (change in y)/(change in x).

In line V, you are given (0, 2) and (3, 0).
Slope = (0-2)/(3-0) = (-2)/(3) = -2/3. (Q. 5)

--The point of tangency between a curve and a line which may or may not be curved, is that specific point where the slopes are equal (i. e., where they touch). (Q. 10)

--In the equation y = A + Bx, the y-intercept is equal to A and the slope is equal to B. In the equation given: A = 3, B = (-3/5).
To find the x-intercept of a line, set y = 0 and solve for x.
In the equation given: x = 5 when y = 0. (Q.'s 20 - 22)

--If two lines are parallel, Line A Line C, they have equal slopes. Only their y-intercepts are different. If two lines have the same origin (in this case y-intercept) but are not equal, Line A and Line B, their slopes are different. (Q.'s 24, 25)

Eighty-percent, Alvin

--Given: $ax + b + d = 0$, where a does not equal 0. (Q.'s 29 - 32)
Subtract $(b + d)$ from both sides: $ax = -b - d$.
Multiply both sides by $1/a$: $x = (-b - d)/a$.

Given $ax + by = c$.
Subtract ax from both sides: $by = c - ax$.
Multiply both sides by $1/b$: $y = (c - ax)/b$.

Y-intercept is where $x = 0$. When $x = 0$, then $y = c/b$.

Remember in the equation $y = A + Bx$, B is the slope, therefore:
$y = (c/b) - (a/b) =$ slope.

--Given: $y = ay + bx + dz$, where a does not equal 1. (Q.'s 33 - 36)
Subtract ay from both sides of the equation: $y - ay = bx + dz$.
Factor out y from the left side of the equation: $(1 - a)y = bx + dz$.
Multiply both sides by $1/(1 - a)$: $y = (bx + dz)/(1 - a)$.

If the equation is diagrammed where y is treated as a function of x, then z is considered a constant. In the traditional form for an equation $y = A + Bx$, A is the y-intercept and B is the slope.

$y = dz/(1 - a) + bx/(1 - a)$

If z is changed only the intercept will change.

--5 percent = .05. You are given that there is $150 in a savings acccunt. In order to find the interest accrued:
$(.05)($150) = $7.50.

--After one year, Mr. Kotke has $157.50 in his account. After the second year he will accrue 5 percent interest:
$(.05)($157.50) = $7.88.
Therefore, his savings after two years will be:
$157.50 + $7.88 = $165.38. (q.'s 39, 40)

--You did quite well on Survey 0 and appear to have an acceptable grasp of the basic graphic and mathematical concepts necessary to begin the study of the course. In view of this, begin reading...

***** DIAGNOSTIC LISTING OF STUDENT REPORT FORMAT NUMBER 98 *****

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

Survey # 1 (09/17/77)
Basic Tools and Terminology

A [41 thru 41 on G151]

```
A        You          X  XXXXX  XXXXX  XX---/
A            scored   X  X   X  X   X  XX  /
A                     X  X   X  X   X     /
A                     X  X   X  X   X    /        on
A                     X  X   X  X   X   /  XX        this
A                     X  XXXXX  XXXXX  /---XX            survey.
```

A
A For your records, the correct answers for the 41 questions on this
A survey are: 1 2 2 1 1 2 1 3 4 2 3 1 3 4 2 3 4 1 2 3 4 2 4 1 2
A 3 4 3 2 1 3 4 4 2 3 2 2 2 3 3 1.
A
B [0 thru 40 on G151]

B T A B L E O F R E S P O N S E S

B

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.		1	15.		2	29.		2
2.		2	16.		3	30.		1
3.		2	17.		4	31.		3
4.		1	18.		1	32.		4
5.		1	19.		2	33.		4
6.		2	20.		3	34.		2
7.		1	21.		4	35.		3
8.		3	22.		2	36.		2
9.		4	23.		4	37.		2
10.		2	24.		1	38.		2
11.		3	25.		2	39.		3
12.		1	26.		3	40.		3
13.		3	27.		4	41.		1
14.		4	28.		3			

B
B You correctly answered ** questions out of the 41 questions
B on this survey. The table above summarizes your answers as well
B as the correct answers for this survey. You are urged to make
B sure that you understand the nature of any incorrect responses
B which you made. Carefully review the following messages concerning
B those problems with which you appear to be having difficulty:
D [41 thru 41 on G151]
D Congratulations! We are very pleased to see that you have a firm
D command of the basic tools necessary to succeed in this course.
D We hope that you will apply yourself in this course and that it will
D be both challenging and enjoyable for you.
E [0 thru 1 on G152]
E --The coordinates of a point are written (x value, y value).

E (Q.'s 1, 2)
F [0 thru 1 on G153]
F --The y-intercept of a line is the point which is the intersection
F of the line and the y-axis.
F The x-intercept of a line is the point which is the intersection
F of the line and the x-axis. Line V: y-intercept = 2;
F x-intercept = -4. (Q.'s 3,4)
G [0 thru 2 on G154]
G --If given two points on a line (r, s) and (t, u), then the slope
G b of this line is defined as: b = (u-s)/(t-r).
G Slope = (change in y)/(change in x).
G
G In line V, you are given (0, 2) and (3, 0).
G Slope = (0-2)/(3-0) = (-2)/(3) = -2/3. (Q. 5)
H [0 thru 0 on G155]
H --In Graph 2, y is constant for all values of x. Thus, if the value
H of x is large or small, the value of y remains unchanged. (Q. 6)
I [0 thru 1 on G156]
I --In Graph 1, as the value of x increases, the value of y increases.
I They are said to be directly or positively related. (Q. 7)
J [0 thru 0 on G157]
J --In Graph 3, as the value of x increases, the value of y decreases.
J They are said to be inversely or negatively related. (Q. 8)
K [0 thru 0 on G158]
K --Line S and Line T are said to "intersect" at the point which is
K common to both of the lines. (Q. 9)
K
L [0 thru 0 on G159]
L --The point of tangency between a curve and a line which may or may
L not be curved, is that specific point where the slopes are equal
L (i. e., where they touch). (Q. 10)
M [0 thru 1 on G160]
M --The slope of a line tangent to a curve at its maximum or minimum
M is equal to zero. We find a minimum where the slope has changed
M from being negative to being positive. Consistently, we find a
M maximum where the slope has changed from being positive to being
M negative. (Q.'s 11, 12)
N [0 thru 3 on G161]
N --In the equation y = A + Bx, the y-intercept is equal to A and
N the slope is equal to B. (Q.'s 16 - 19)
N In Line R, A = 2 and B = 2, therefore y = 2 + 2x.
N In Line W, A = 3 and B = (-3)/2, therefore y = 3 - (3/2)x.
N In Line H, A = 5 and B = 5/4, therefore y = 5 + (5/4)x and
N 5 + (5/4)x = (5/4)x + 5.
N In q = 2 - p, A = 2 and B = (-1). This is the graph of line c.
O [0 thru 2 on G162]
O --In the equation y = A + Bx, the y-intercept is equal to A and the
O slope is equal to B. In the equation given: A = 3, B = (-3/5).
O To find the x-intercept of a line, set y = 0 and solve for x.
O In the equation given: x = 5 when y = 0. (Q.'s 20 - 22)
P [0 thru 0 on G163]
P --Given: 9 + (4/7)m = 12. Multiply both sides of the equation
P by 7: 63 + 4m = 84. Subtract 63 from both sides: 4m = 21.
P Multiply both sides of the equation by 1/4 : m = 21/4. (Q. 23)
P
P It seems that many of you took the following method of
P operation: 9 + (4/7)m = 12.
P Subtract 9 from both sides: (4/7)m = 3.
P Then, by mistake, you multiplied: (4/7) 3 = 12/7 = m.
P The correct approach would have been to multiply by the

53

P reciprocal (7/4), thereby: (7/4) 3 = 21/4 = m.
P
Q [0 thru 1 on G164]
Q --If two lines are parallel, Line A Line C, they have equal
Q slopes. Only their y-intercepts are different. If two lines have
Q the same origin (in this case y-intercept) but are not equal, Line A
Q and Line B, their slopes are different. (Q.'s 24, 25)
R [0 thru 2 on G165]
R --The intersection of two lines is their common point and is the only
R solution which is true for both linear equations. (Q.'s 26 - 28)
R

A: y = 1 + 2x	B: y = 4 - x
1 + 2x = 4 - x	Substitute A into B
1 + 3x = 4	Add x to both sides
3x = 3	Subtract 1 from both sides
x = 1	Multiply both sides by 1/3
y = 1 + (2)(1)	Substitute x = 1 into A.
y = 3	

R
R Many of you made arithmetic errors in 28. Let's look at
R the problem. Solve simultaneously:

A: y = -37 + 5x	B: y = 15 - (3/2)x
-37 + 5x = 15 - (3/2)x	Substitute A into B
-74 + 10x = 30 - 3x	Multiply both sides by 2
-74 + 13x = 30	Add 3x to both sides
13x = 104	Add 74 to both sides

R At this point many of you said 74 + 30 = 94 and therefore
P chose the option where x = 94/13.
R
R Instead you want to multiply both sides by 1/13.
R x = 104/13
R x= 8
R Substitute x = 8 into a
R y = -37 + (5)(8)
R y = 3
S [0 thru 3 on G166]
S --Given: ax + b + d = 0, where a does not equal 0. (Q.'s 29 - 32)
S Subtract (b + d) from both sides: ax = -b - d.
S Multiply both sides by 1/a: x = (-b - d)/a.
S
S Given ax + by = c.
S Subtract ax from both sides: by = c - ax.
S Multiply both sides by 1/b: y = (c - ax)/b.
S
S Y-intercept is where x = 0. When x = 0, then y = c/b.
S
S Remember in the equation y = A + Bx, B is the slope, therefore:
S y = (c/b) - (a/b) = slope.
T [0 thru 3 on G167]
T --Given: y = ay + bx + dz, where a does not equal 1. (Q.'s 33 - 36)
T Subtract ay from both sides of the equation: y - ay = bx + dz.
T Factor out y from the left side of the equation: (1 - a)y = bx + dz.
T Multiply both sides by 1/(1 - a): y = (bx + dz)/(1 - a).
T
T If the equation is diagrammed where y is treated as a function of
T x, then z is considered a constant. In the traditional form for an
T equation y = A + Bx, A is the y-intercept and B is the slope.
T

```
T       y = dz/(1 - a)  + bx/(1 - a)
T
T     If z is changed only the intercept will change.
T
U   [0 thru 0 on G168]
U   --3 percent = .03.  You are given the list price of the car is $4500.
U     Since the sales tax is 3 percent, (.03)($4500) = $135 = sales tax.
U     The total cost: $4500 + $135 = $4635.  (q. 37)
V   [0 thru 0 on G169]
V   --25 percent = .25.  You are given that there exists a 25 percent
V     admission tax.  Therefore, .25 times the original price will equal
V     the total price ($6.25)9  Algebraically, where x equals the original
V     price:
V             (.25) times x.  + x  = $6.25
V             (1.25)x  = $6.25
V             x = $5.00                                   (q. 38)
W   [0 thru 1 on G170]
W   --5 percent = .05.  You are given that there is $150 in a savings
W     acccunt.  In order to find the interest accrued:
W         (.05)($150) = $7.50.
W
W   --After one year, Mr. Kotke has $157.50 in his account.  After the
W     second year he will accrue 5 percent interest:
W         (.05)($157.50) = $7.88.
W     Therefore, his savings after two years will be:
W         $157.50 + $7.88 = $165.38.          (q.'s 39, 40)
X   [0 thru 0 on G171]
X   --Ms. Gleason earned $11,267. According to the tax schedule she must
X     pay $480 on the first $10,000.  She also must pay 7 percent (.07)
X     of the amount she earns over $10,000.  In her case, to the nearest
X     dollar:
X     (.07)(11,267 - 10,000) = (.07)(1,267) = $89
X     Total tax = $480 + $89 = $569.          (q. 41)
X
Y   [36 thru 41 on G151]
Y   --You did very well on Survey 0 and appear to have a solid grasp of
Y     the basic graphic and mathematical concepts necessary to begin the
Y     study of the course. In view of this,  begin reading...
Y
Z   [30 thru 35 on G151]
Z   --You did quite well on Survey 0 and appear to have an acceptable
Z     grasp of the basic graphic and mathematical concepts necessary to
Z     begin the study of the course. In view of this, begin reading...
Z
C   [24 thru 29 on G151]
C   --We would have expected you to perform slightly higher on this
C     material, but  a few of your errors may have been careless or
C     quite mechanical. If this is the case, then go ahead and begin
C     your reading...
C     If not, you may elect to attend a special review session at
C                          in room                        on
C
C
*   [0 thru 23 on G151]
*   --You appear to be having some difficulty with the basic tools
*     frequently used in economics. These tools are important for
*     your future work. Our experience is that knowing them makes
*     studying economics much easier, and leads to more certain
*     mastery.  There will be a special review session at
*     in room                          on
```

55

* Come prepared to ask questions on points over which you are
* confused. Attendance will be taken.
*

** WE DO NOT HAVE THIS INFORMATION. IF NECESSARY, SEE YOUR INSTRUCTOR.

Inventory of Question Groupings for Survey 1.2.1

G151 -- Basic Tools And Terminology
ALL 41 QUESTIONS ON THE TEST
G152 -- Coordinates
QSTS 1,2
G153 -- Intercepts
QSTS 3,4
G154 -- Slope
QSTS 5,14,15
G155 -- Constant Functions
QSTS 6
G156 -- Direct Relationships
QSTS 7,13
G157 -- Inverse Relationships
QSTS 8
G158 -- Intersection
QSTS 9
G159 -- Tangency
QSTS 10
G160 -- Maxima And Minima
QSTS 11,12
G161 -- Equation Of A Line
QSTS 16,17,18,19
G162 -- Linear Components
QSTS 20,21,22
G163 -- Solving Equations
QSTS 23
G164 -- Movement Of Lines
QSTS 24,25
G165 -- Simultaneous Equations
QSTS 26,27,28
G166 -- Algebraic Equations
QSTS 29,30,31,32
G167 -- Complex Algebraic Equations
QSTS 33,34,35,36
G168 -- Percent - Sales Tax
QSTS 37
G169 -- Percent - Admission Tax
QSTS 38
G170 -- Interest Rates
QSTS 39,40
G171 -- Income Tax
QSTS 41

TIPS Instructional Unit Number 2

Instructional Unit A simple Model of Income and Expenditure Determination

Concept Areas

Survey 2a
- The Structure of the Model
- The Consumption Function
- Simple Model Construction

Survey 2b
- Income-Expenditure Model
- The Economy in Disequilibrium

Contents
- Objectives
- TIPS Survey 2a (& Answer Key)
- Listing of Prescriptions and Decision Rules to Survey 2a
- Sample Student Reports for Survey 2a
- TIPS Survey 2b (& Answer Key)
- Listing of Prescriptions and Decision Rules to Survey 2b
- Sample Student Reports for Survey 2b

OBJECTIVES

A SIMPLE MODEL OF INCOME AND EXPENDITURE DETERMINATION

The Structure of the Model

...define model
...define endogenous variables
...identify the purpose of a model
...define the meaning of structural relationships in a model
...given examples of structural relationships, identify those relationships which are behavioral and those which are identities
...given a hypothetical case, identify the simplifying assumptions necessary in formulating a model of this case
...in developing a highly simplified macroeconomic model, identify three simplifying assumptions which will be made

The Consumption Function

...given a list of elements, identify the determinants of aggregate consumption expenditure
...indicate how consumption expenditure reacts to changes in disposable income
...define a consumption function
...define the marginal propensity to consume
...given a graph of a consumption function, label the axes
...indicate why the marginal propensity to consume is the slope of the consumption function
...given four algebraic equations, identify the one which expresses consumption expenditure
...given a graph of a consumption function, label the vertical intercept and slope with respect to the algebraic formulation of the consumption function

Solving the Model

...identify the three accounting identities included in the simple model of national income and expenditure
...identify the algebraic forms of the three accounting identities
...define a parameter
...given the income-expenditure model, calculate the relationship between C and Y
...given the income-expenditure model, calculate the relationship between E and Y
...given the equation, $E = a - b\bar{T} + \bar{I} + \bar{G} + bY$, identify the vertical intercept and the slope
...indicate how E will change as C changes
...given a graph, label the curves representing the consumption function, the expenditure function, and the 45° line; also label the corresponding vertical intercepts
...define the solution of a model
...given a graph containing two curves representing the expenditure function and the 45° line ($Y = E$), identify the combination of E and Y for which all four structural equations will hold true
...given a graph of the income-expenditure model, indicate how the solution to the model will be affected by a change in the value of any one of the exogenous variables
...define a reduced form equation

...given the income-expenditure model, caluclate the reduced form equations for the endogenous variables
...given the income-expenditure model, calculate the algebraic solution to the model

Interpreting the Model

...define equilibrium
...given an example where the economy is not in equilibrium, indicate how the endogenous variables will change with a given change in one of the exogenous variables
...define stable equilibrium
...given the income-expenditure model with E and Y below their equilibrium levels, indicate how they will adjust
...define desired gross national expenditure
...define actual gross national expenditure
...differentiate between desired and actual gross national expenditure
...given a graph of the income-expenditure model, label which curve shows the actual and which the desired level of gross national expenditure
...given the income-expenditure model in a state of disequilibrium, identify the possible relationships which exist between C and $a - b\bar{T} + bY$, I and $\bar{I}$, and/or G and $\bar{G}$
...define unfilled orders
...define unintended inventory disinvestment
...given an example where actual gross national expenditure is less than desired taking the form of unfilled orders, apply generally the concepts of equilibrium to recognize that this provides a motive for producers to hire more factors of production and produce more output
...given a graph of the situation where production exceeds the amount that households, businesses and government want to buy, label the missing components
...identify that changes in the equilibrium income and expenditure can occur only if there are changes in the exogenous variables or in the parameters of the model
...define ceteris paribus
...given an example where there is a change in any one of the exogenous variables, apply technically the reduced form equation in order to identify the magnitude of the effect on Y*

Multipliers

...define multiplier
...identify the relationship between the multiplier and the marginal propensity to consume
...define autonomous change
...define induced change
...identify the multiplier when there are changes in I or C
...identify the net tax multiplier
...indicate why the net tax multiplier is negative
...apply generally the principle that the multiplier acts to increase income by a multiplied amount when one of the exogenous variables is increased and the multiplier acts to decrease income by a multiplied amount when one of the exogenous variables is decreased
...given the MPC, calculate the multiplier

...apply technically the concept of the multiplier to predict the net change in income given the MPC and the amount of the original change in one of the exogenous variables

...apply technically the concept of the multiplier to solve cases using the multiplier

A SIMPLE MODEL OF INCOME AND EXPENDITURE DETERMINATION

TIPS SURVEY 2A

Professor Allen C. Kelley
Duke University

Economics 1.D
Fall 1977

Name:_____ Social Security #:_____

Select the best answer from the alternatives given. Place the number of the correct answer in the blank at the left. After completing the survey, transfer these numbers to the data processing sheet, and complete the indicated identification on that sheet.

The Structure of the Model

___1. The term "endogenous" variable refers to:
1) a variable in a model whose values are determined outside the model.
2) a variable in a model the behavior of which the model is intended to explain and the values of which are determined within the model.
3) a term in a model the value of which is constant and does not depend on the values of the other variables in the model.
4) a term in a model which holds true by definition.

___2. In question 1 which of the following refers to the term "exogenous" variable:
1) 1
2) 2
3) 3
4) 4

___3. To say that a structural relationship is an identity means that:
1) it describes the behavior of some agents in the economy with respect to the variables involved.
2) it describes how the value of the exogenous variables depends on that of the endogenous variables.
3) all of the variables in the model are constant.
4) the structural relationship is true by definition.

___4. To say that a structural relationship is behaviorial means which of the following in question 3?
1) 1
2) 2
3) 3
4) 4

___5. Define a reduced form equation:
1) An equation derived from the structural form of a model, which expresses an endogenous variable in terms of known exogenous variables and parameters.
2) A relation describing how the value of one endogenous variable depends on that of other endogenous and/or exogenous variables.
3) An equation derived from the structural form of a model, which expresses the values of the endogenous variables.
4) An equation which has as many exogenous variables as it does endogenous variables.

___6. Identify in question 5 which of the following best describes structural relationships.
1) 1
2) 2
3) 3
4) 4

___7. The solution to a model is:
1) a set of relationships such that the number of endogenous variables is equal to the number of equations in the model.
2) a set of relationships such that there is a complete and logically consistent set of equations contained in the model.
3) a set of values for the endogenous variables for which all the relationships making up the model will hold true.
4) a set of values for the exogenous variables for which all the relationships making up the model will hold true.

The Consumption Function

___8. The consumption schedule shows:
1) that consumption depends primarily on the level of business investment.
2) that households consume more when interest rates are low.
3) that the MPC increases in proportion to NNP.
4) the amounts households plan or intend to consume at various possible income levels.

___9. Using C to denote consumption expenditure and Y_d to denote disposable personal income, which of the following equations expresses the usual consumption relationship?
(assuming a,b>0)
1) $C = aY_d$
2) $C = a - bY_d$
3) $C = a + bY_d$
4) $C = bY_d - a$

__10. In the consumption equation, identify the parameters:
1) a, Y_d
2) a, b
3) C, Y_d
4) a

__11. The MPC can be defined as:
1) that fraction of a given total income which is consumed.
2) that fraction of a given total income which is not consumed.
3) that fraction of a change in income which is spent.
4) that fraction of a change in income which is not spent.

__12. If the consumption schedule is a straight line, it can be concluded that:
1) the multiplier is one.
2) the multiplier is measured by the ratio C/Y_d.
3) the MPC is constant at various levels of income.
4) the MPC increases as income rises.

Simple Model Construction

Construct a model around the following situation:

Each Duke Student must chose to allocate the total time in the 24 hour day between three competing activities: academic activities (A), leisure-time activities (L), and eating and sleeping (S). These activities occupy all of the student's time. The amount of time the student spends on academic activities depends on his desire for high grades (G), and the amount of time he enjoys leisure depends on his income (Y). His desires for grades, and his income, are determined by factors outside the model.

__13. This model has how many endogenous variables.
1) 2
2) 3
3) 4
4) 5

__14. This model has how many exogenous variables.
1) 2
2) 3
3) 4
4) 5

__15. Identify one of the parameters in this model.
1) amount of time spent studying
2) total hours in the day
3) the student's income
4) the amount of time spent in leisure activities

__16. Which of the following structural relationships is an identity?
1) Total hours allocated between A, L, and S equals 24.
2) The amount of time spent studying depends upon the student's desires for high grades.
3) The amount of time spent eating is related to the student's needs for nourishment.
4) The influence of the student's peers affects the amount of time spent in leisure activities.

Suppose the following explicit equations describe the above example:

$24 = A + L + S$
$A = 2 + .5G$
$L = 5 + .25Y$

__17. Identify the reduced form equation for S.
1) $S = 24 - A - L$
2) $S = 24 - .5G - .25Y$
3) $S = 31 + .5G + .25Y$
4) $S = 17 - .5G - .25Y$

__18. Suppose $G = 10$ and $Y = 16$; what is the value of S?
1) 6
2) 8
3) 11
4) 15

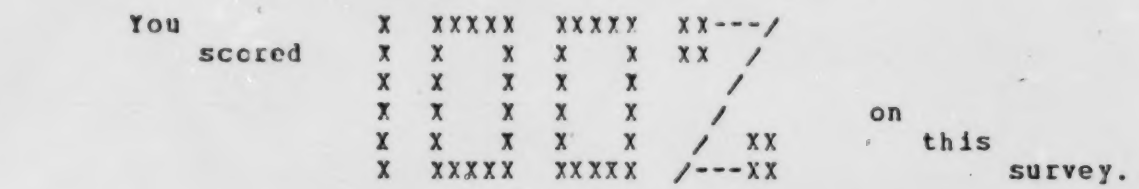
ANSWER KEY

1. 2
2. 1
3. 4
4. 1
5. 1
6. 2
7. 3
8. 4
9. 3
10. 2
11. 3
12. 3
13. 2
14. 1
15. 2
16. 1
17. 4
18. 2

TIPS
Student Progress Report
Principles of Economics (1E.1)
Professor Allen C. Kelley

All-right, Alice
ID # C00111111
Section # 1, 9:00 AM Monday
Section Leader: Mark Bebensee

Survey # 2 (08/17/77)
Simple Model Of Income-expenditure



For your records, the correct answers for the 18 questions on this survey are: 2 1 4 1 1 2 3 4 3 2 3 3 2 1 2 1 4 2.

You demonstrated a good general knowledge of the material covered by survey 2a. Continue to move ahead with your work in the course. Don't rest on your laurels.

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

Eighty-percent, Alvin
ID # 022222222
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 2 (09/17/77)
Simple Model Of Income-expenditure

You correctly answered 15 out of the 18 questions on this survey. The following table summarizes your answers as well as the correct answers for this survey. You are urged to make sure that you understand the nature of any incorrect responses which you made.

TABLE OF RESPONSES

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.	2	2	7.	3	3	13.	2	2
2.	1	1	8.	4	4	14.	1	1
3.	4	4	9.	3	3	15.	1	2
4.	1	1	10.	3	2	16.	1	1
5.	2	1	11.	3	3	17.	4	4
6.	2	2	12.	3	3	18.	2	2

We had hoped for a somewhat better performance on this survey, although your score was not really that low for your first attempt at building models. However, to ensure that you are on the right track, I would recommend the following review items.

--Review A/K/L, sections 2.1.1, 2.1.2, 2.1.4, 2.2.3, and 2.2.4. The definitions which are found there are an important foundation for your understanding of model building.

--Review McConnell, pp. 227 - 235, and A/K/L, sections 2.1.3, 2.2.1, and 2.2.2. Examine in McConnell pp. 240 - 241, q.'s 5a., 9a., and 9b. (only as relates to the consumption function). In addition, in Bingham, p. 81, T-F q.'s 5., 6., 7., 8. (only in relation to the consumption function), and p. 82, q.'s 5., 8.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey. These assignments will be reviewed and a record of completion noted.

TIPS
Student Progress Report
Principles of Economics (1C.1)
Professor Allen C. Kelley

No-show, Joe
ID # 000004444
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 2 (08/17/77)
Simple Model Of Income-expenditure

Our records indicate that you did not take the survey on 08/17/77. As a result, at this time we do not have any direct indication of your understanding of the material covered by this survey. In these situations, we assign certain readings or problems which assure us that you are familiar with the minimum tools needed to master this aspect of the course. This assignment is not a penalty. Rather, it is a means of ensuring that we have provided you with the tools needed to master more advanced concepts.

--Review A/K/L, sections 2.1 and 2.2. The definitions which are found there are an important foundation for your understanding of model building. Review McConnell, pp. 227 - 235. Examine in McConnell, pp. 240 - 241, q.'s 5a, 9a, and 9b (only in relation to the consumption function). In addition, in Bingham, p. 81, T-F q.'s 5, 6, 7, 8 (only in relation to the consumption function), and p. 82, q.'s 5 & 8.

--In the Course Notebook there are cases coordinated with the survey to give you practice in constructing models. Work model 2-A carefully. If you are having difficulties, don't hesitate to see Carol Swartz.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey. These assignments will be reviewed and a record of completion noted.

E at building models. However, to ensure that you are on the right
E track, I would recommend the following review items.
F [10 thru 13 on G151]
F Your performance on this survey is well below our expectations.
F We realize that the concepts of model building are difficult.
F However, falling behind on these basic definitions is a handicap
F to constructing more complicated models. In looking over the
F distribution of your responses, I would recommend that you complete
F the following review items.
G [0 thru 9 on G151]
G While this is a difficult survey, your performance is not up to
G the threshold required to further your work in model building. It
G is imperative that you learn the basic definitions. Economics is
G a "cumulative" subject and falling behind is dangerous to continued
G progress. Let's work together to get this problem rectified. There
G will be a special session in room on
G at Please bring your survey, class handouts, book, and
G workbook. We'll take this opportunity to go over the handouts and
G survey. Attendance will be taken; please come prepared with
G questions. Also, before the session, you should complete the
G following review items.
H [-1 thru 0 on G151]
H --Review A/K/I, sections 2.1 and 2.2. The definitions which are
H found there are an important foundation for your understanding of
H model building. Review McConnell, pp. 227 - 235. Examine in
H McConnell, pp. 240 - 241, q.'s 5a, 9a, and 9b (only in relation
H to the consumption function). In addition, in Bingham, p. 81,
H T-F q.'s 5, 6, 7, 8 (only in relation to the consumption function),
H and p. 82, q.'s 5 & 8.
H
H --In the Course Notebook there are cases coordinated with the
H survey to give you practice in constructing models. Work model
H 2-A carefully. If you are having difficulties, don't hesitate to
H see Mark Petersee.
I [0 thru 6 on G152]
I --Review A/K/I, sections 2.1.1, 2.1.2, 2.1.4, 2.2.3, and 2.2.4.
I The definitions which are found there are an important foundation
I for your understanding of model building.
J [0 thru 4 on G153]
J --Review McConnell, pp. 227 - 235, and A/K/I, sections 2.1.3,
J 2.2.1, and 2.2.2. Examine in McConnell pp. 240 - 241, q.'s 5a.,
J 9a., and 9b. (only as relates to the consumption function). In
J addition, in Bingham, p. 81, T-F q.'s 5., 6., 7., 8. (only in
J relation to the consumption function), and p. 82, q.'s 5., 8.
K [0 thru 4 on G154]
K --Review A/K/I, sections 2.1 and 2.2. In the Course Notebook
K there are cases coordinated with the survey to give you practice in
K constructing models. Work model 2-A carefully. If you are having
K difficulties, don't hesitate to see Mark Petersee.
K
K --An important point must be made in regard to an analysis of the
K questions you missed on this survey. Economics involves model
K building, the ability to construct a model given a situation. This
K is a difficult goal. Questions 13 - 18, of which you correctly
K answered **, test the model building ability. Your performance
K on this type of learning could benefit from some more intensive work
K on these materials. Don't get discouraged.
L [-1 thru 17 on G151]
L With respect to all suggested learning activities noted above, written
L assignments may be handed in to Mark Petersee if you would like more

L feedback. This should be done within a week of the date of the survey.
L These assignments will be reviewed and a record of completion noted.

** WE DO NOT HAVE THIS INFORMATION. IF NECESSARY, SEE YOUR INSTRUCTOR.

Inventory of Question Groupings fo Survey # 2a

G151 -- Macro Unit 2: Survey #2a
ALL 18 QUESTIONS ON THE TEST
G152 -- The Structure Of The Model
QSTS 1,2,3,4,5,6,7
G153 -- The Consumption Function
QSTS 8,9,10,11,12
G154 -- Simple Model Construction
QSTS 13,14,15,16,17,18

A SIMPLE MODEL OF INCOME AND EXPENDITURE DETERMINATION

TIPS SURVEY 2B

Professor Allen C. Kelley
Duke University

Economics 1.D
Fall 1977

Name:_____ Social Security #:_____

Select the best answer from the alternatives given. Place the number of the correct answer in the blank at the left. After completing the survey, transfer these numbers to the data processing sheet, and complete the indicated identification on that sheet.

Income - Expenditure Model

In analyzing the determination of national income and expenditure, it is necessary to begin with a highly simplified model. The variables included are consumption (C), government expenditure (G), net taxes (T), investment expenditure (I), disposable personal income (Y_d), gross national expenditure (E), and gross national income (Y), where G, T, and I are determined outside the model. The following explicit equations describe the model.

(1) $C = a + bY_d$
(2) $Y_d = Y - T$
(3) $E = C + I + G$
(4) $Y = E$

___1. This model has how many endogenous variables?
1) 2
2) 3
3) 4
4) 5

___2. This model has how many exogenous variables?
1) 2
2) 3
3) 4
4) 5

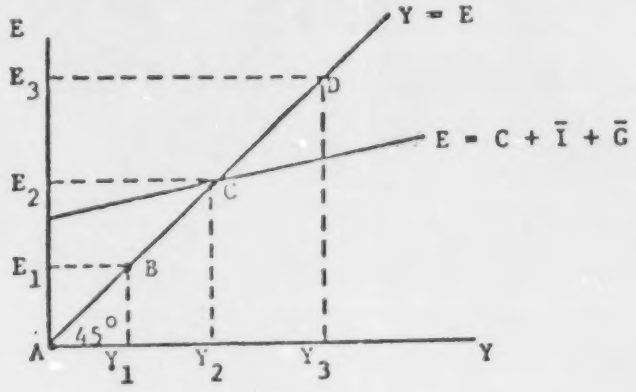
___3. Identify one of the parameters in this model.
1) C
2) b
3) G
4) E

___4. Which of the above structural equations is a behavioral equation?
1) 1
2) 2
3) 3
4) 4

___5. In terms of specification, this model:
1) has fewer structural equations than endogenous variables.
2) has more structural equations than endogenous variables.
3) has the same number of behavioral equations as endogenous variables.
4) has as many structural equations as it has endogenous variables.

___6. The 45-degree line on a chart which relates total expenditure and income shows:
1) the amounts households will plan to consume at each level of income.
2) all points where the MPC is constant.
3) all points at which saving and income are equal.
4) all points at which total expenditure and income are equal.

___7. Given the following graph, identify that point which represents a combination of E and Y for which all four structural equations will hold true.



1) A
2) B
3) C
4) D

___8. An economy is in equilibrium:
1) when there is no tendency for the variables involved to change.
2) when there is a tendency for the endogenous variables to change.
3) when there is a tendency for one of the exogenous variables to be in excess.
4) when there is a tendency for one of the exogenous variables to be insufficient.

___9. Suppose $C = \$120 + .6Y_d$, $I = \$50$, $G = \$200$, and $T = 0$, the equilibrium level of income is:
1) $1350
2) $925
3) $850
4) $370

__10. From the data above, the equilibrium value of consumption is:
1) $380
2) $485
3) $675
4) $750

__11. If initially $C = \$200 + .8(Y-T)$, $I = \$125$, $T = \$25$ and $G = \$250$, what is the equilibrium level of income?
1) $2875
2) $2775
3) $2750
4) $2400

__12. What would be the change in equilibrium income caused by a $30 decrease in investment?
1) -150
2) -50
3) +50
4) +150

__13. What would be the new equilibrium income level if taxes were reduced from $25 to $15?
1) $2950
2) $2935
3) $2815
4) $2735

__14. If $C = \$80 + .6Y_d$, then the marginal propensity to consume is:
1) 2.50
2) 1.67
3) .60
4) .40

__15. If Y_d is equal to $2000 in question 14, then consumption will be:
1) $800
2) $1080
3) $1200
4) $1280

__16. The multiplier:
1) is measured by the slope of the consumption schedule.
2) only occurs when intended investment increases.
3) can be found by taking the reciprocal of the MPC, i.e., 1/MPC.
4) can be found by taking the reciprocal of 1 - MPC, i.e., 1/(1-MPC).

__17. If the MPC = .8, then an increase in government expenditure of $50 will increase equilibrium income by:
1) $250
2) $90
3) $50
4) cannot be determined from the information

The Economy in Disequilibrium

__18. To say that there has been unintended inventory disinvestment means that:
1) there has been a reduction of producer stocks of inventories of final goods below normal levels in order to meet sales.
2) there has been an increase of producer stocks of inventories of final goods because of a reduction of sales.
3) desired consumption, investment, or government expenditures have not been made because the commodities were unavailable.
4) increases in investment expenditures have not been made because producer stocks of inventories of final goods are too great.

__19. In question 18, which one of the following best defines unfilled orders?
1) 1
2) 2
3) 3
4) 4

__20. Autonomous investment expenditure refers to that part of investment that:
1) relates only to inventories.
2) is made by the government sector.
3) is directly related to the level of economic activity.
4) is not directly related to the level of economic activity.

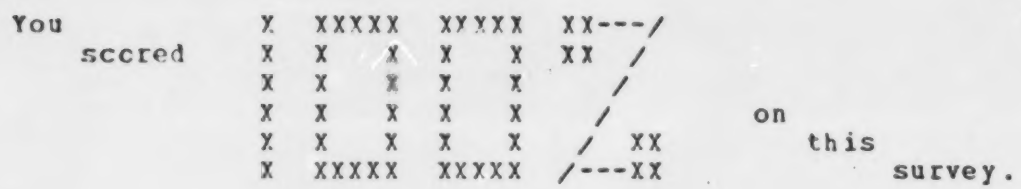
ANSWER KEY

1. 3
2. 2
3. 2
4. 1
5. 4
6. 4
7. 3
8. 1
9. 2
10. 3
11. 2
12. 1
13. 3
14. 3
15. 4
16. 4
17. 1
18. 1
19. 3
20. 4

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

All-right, Alice
ID # C00111111
Section # 1, 9:00 AM Monday
Section Leader: Mark Bebensee

Survey # 3 (09/17/77)
Simple Model Of Income-expenditure



For your records, the correct answers for the 20 questions on this survey are: 3 2 2 1 4 4 3 1 2 3 2 1 3 3 4 4 1 1 3 4.

Congratulations! A very good showing this time around. Don't let up -- the units ahead are challenging. Keep up the good work.

TIPS
Student Progress Report
Principles of Economics (1C.1)
Professor Allen C. Kelley

Eighty-percent, Alvin
ID # 022222222
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 3 (08/17/77)
Simple Model Of Income-expenditure

You correctly answered 16 out of the 20 questions on this survey. The following table summarizes your answers as well as the correct answers for this survey. You are urged to make sure that you understand the nature of any incorrect responses which you made.

T A B L E O F R E S P O N S E S

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.	3	3	8.	1	1	15.	3	4
2.	2	2	9.	2	2	16.	4	4
3.	2	2	10.	2	3	17.	1	1
4.	1	1	11.	2	2	18.	1	1
5.	1	4	12.	1	1	19.	3	3
6.	4	4	13.	3	3	20.	3	4
7.	3	3	14.	3	3			

Your score on this survey was not as high as we had hoped. Model building is one of the fundamental concepts of economics. Therefore, to ensure that you are grasping these necessary tools I would recommend the following review items.

--Review A/K/I, sections 2.1 and 2.2. The definitions contained therein are imperative for your understanding of model building. In the Course Notebook, work through problem 2-B, q.'s 1 - 5.

--Review McConnell, pp. 246 - 248 and 251 - 255; also examine q. 4 on p. 259. Review A/K/I, sections 2.2.4 and 2.3. In Bingham, q.'s 1 and 2 on p. 86; T-F q.'s 2, 6, and 7 on p. 88; q.'s 1, 2, and 3 on p. 99.

--Review A/K/I, section 2.3.2. Review pp. 235 - 239 and 250 - 251 in McConnell; also complete q. 8, p. 240.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey. These assignments will be reviewed and a record of completion noted.

TIPS
Student Progress Report
Principles of Economics (1B.1)
Professor Allen C. Kelley

Mc-shcw, Joe
ID # 000004444
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 3 (08/17/77)
Simple Model Of Income-expenditure

Our records indicate that you did not take the survey on 08/17/77. As a result, at this time we do not have any direct indication of your understanding of the material covered by this survey. In these situations, we assign certain readings or problems which assure us that you are familiar with the minimum tools needed to master this aspect of the course. This assignment is not a penalty. Rather, it is a means of ensuring that we have provided you with the tools needed to master more advanced concepts.

--Review A/K/L, sections 2.1, 2.2, and 2.3. Review McConnell, pp. 235 - 239, 246 - 248, and 250 - 255; also examine q. 4, p. 259, and q.'s 8, 9, and 10 on pp. 260 - 261. In Bingham, q.'s 1 and 2 on p. 86; T-F q.'s 5, 6, and 7 on p. 88; q.'s 1, 2, and 3 on p. 89.

--Work through problems 2-B and 2-C in the Course Notebook.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey. These assignments will be reviewed and a record of completion noted.

***** DIAGNOSTIC LISTING OF STUDENT REPORT FORMAT NUMBER 22 *****

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

Survey # 3 (08/17/77)
Simple Model Of Income-expenditure

A [20 thru 20 on G151]
A You scored

```
X  XXXXX  XXXXX  XX---/
X  X   X  X   X  XX  /
X  X   X  X   X    /
X  X   X  X   X   /        on
X  X   X  X   X  /  XX        this
X  XXXXX  XXXXX /---XX             survey.
```

A
A For your records, the correct answers for the 20 questions on this
A survey are: 3 2 2 1 4 4 3 1 2 3 2 1 3 3 4 4 1 1 3 4.
A
B [0 thru 19 on G151]
B You correctly answered ** out of the 20 questions on this survey.
B The following table summarizes your answers as well as the correct
B answers for this survey. You are urged to make sure that you
B understand the nature of any incorrect responses which you made.
B
B T A B L E O F R E S P O N S E S
B

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.		3	8.		1	15.		4
2.		2	9.		2	16.		4
3.		2	10.		3	17.		1
4.		1	11.		2	18.		1
5.		4	12.		1	19.		3
6.		4	13.		3	20.		4
7.		3	14.		3			

B
C [-1 thru -1 on G151]
C Our records indicate that you did not take the survey on 08/17/77.
C As a result, at this time we do not have any direct indication of
C your understanding of the material covered by this survey. In these
C situations, we assign certain readings or problems which assure us
C that you are familiar with the minimum tools needed to master this
C aspect of the course. This assignment is not a penalty. Rather,
C it is a means of ensuring that we have provided you with the tools
C needed to master more advanced concepts.
C
D [20 thru 20 on G151]
D Congratulations! A very good showing this time around.
D Don't let up -- the units ahead are challenging. Keep up the good
D work.
E [15 thru 18 on G151]
E Your score on this survey was not as high as we had hoped. Model 81

E building is one of the fundamental concepts of economics.
E Therefore, to ensure that you are grasping these necessary tools
E I would recommend the following review items.
F [10 thru 14 on G151]
F Your performance on this survey is well below our expectations.
F We realize that the concepts of the income-expenditure model are
F difficult; however, falling behind now will hinder your progress
F as the model is further complicated. In looking over the
F distribution of your responses, I would recommend that you complete
F the following review items:
G [0 thru 9 on G151]
G While this is a difficult survey, your performance is not up to
G requirements for work on more complicated models. It is imperative
G that you understand the key concepts in model building. We need
G to work together to clear these problems. There will be a special
G session in room on at
G Please bring your survey, class handouts, book, and workbook.
G We'll take this opportunity to rework the survey problems and your
G review assignments. Attendance will be taken; please come
G prepared with questions. Also, before the session, you should
G complete the following review items.
H [-1 thru 0 on G151]
H --Review A/K/L, sections 2.1, 2.2, and 2.3. Review McConnell,
H pp. 235 - 239, 246 - 248, and 250 - 255; also examine q. 4, p. 259,
H and q.'s 8, 9, and 10 on pp. 260 - 261. In Bingham, q.'s 1 and 2
H on p. 86; T-F q.'s 2, 6, and 7 on p. 88; q.'s 1, 2, and 3 on p. 89.
H
H --Work through problems 2-B and 2-C in the Course Notebook.
I [0 thru 4 on G152]
I --Review A/K/L, sections 2.1 and 2.2. The definitions contained
I therein are imperative for your understanding of model building.
I In the Course Notebook, work through problem 2-B, q.'s 1 - 5.
J [0 thru 2 on G153]
J --Review A/K/L, sections 2.2 and 2.3.1. In the Course Notebook,
J work through problem 2-B, q.'s 6 - 11.
K [0 thru 5 on G154]
K --Review McConnell, pp. 246 - 248 and 251 - 255; also examine
K q. 4 on p. 259. Review A/K/L, sections 2.2.4 and 2.3. In
K Bingham, q.'s 1 and 2 on p. 86; T-F q.'s 2, 6, and 7 on p. 88;
K q.'s 1, 2, and 3 on p. 89.
L [0 thru 2 on G155]
L --Review A/K/L, sections 2.2.4 and 2.3. Examine q.'s 9 and 10,
L pp. 260 - 261 in McConnell. Also complete problem 2-C in the
L Course Notebook.
L
L --An important point must be made in regard to an analysis of the
L questions you missed on this survey. Economics involves learning
L facts and principles, plus the ability to apply these principles
L to new situations. The latter is the more difficult goal.
L Questions 11, 12, and 13, of which you correctly answered **,
L test the application goals. Your performance on this type of
L question could benefit from some more intensive work on these
L materials. Don't get discouraged. It may take practice to
L achieve these goals. If you have any problems, see Mark Bebensee.
M [0 thru 2 on G156]
M --Review A/K/L, section 2.3.2. Review pp. 235 - 239 and 250 - 251
M in McConnell; also complete q. 8, p. 260.
N [-1 thru 19 on G151]
N With respect to all suggested learning activities noted above, written
N assignments may be handed in to Mark Bebensee if you would like more

N feedback. This should be done within a week of the date of the survey.
N These assignments will be reviewed and a record of completion noted.

** WE DO NOT HAVE THIS INFORMATION. IF NECESSARY, SEE YOUR INSTRUCTOR.

Inventory of Question Groupings for Survey # 2b

G151 -- Macro Unit 2: Survey #2b
ALL 20 QUESTIONS ON THE TEST
G152 -- General Nature Of The Model
QSTS 1,2,3,4,5
G153 -- Solving The Model
QSTS 6,7,8
G154 -- Simple Application Problems
QSTS 9,10,14,15,16,17
G155 -- Complex Application Problems
QSTS 11,12,13
G156 -- The Economy In Disequilibrium
QSTS 18,19,20

TIPS Instructional Unit Number 3

Instructional Unit	Aggregate Demand, Unemployment, and Inflation
Concept Areas	Aggregate Demand and Potential GNP Aggregate Demand and Unemployment Aggregate Demand, Inflation, and Policymaking Inflationary Bias -- the Expanded Model
Contents	Objectives TIPS Survey (& answer key) Listing of Prescriptions and Decision Rules Sample Student Reports

OBJECTIVES

AGGREGATE DEMAND, UNEMPLOYMENT, AND INFLATION

Aggregate Demand

...define aggregate demand
...indicate how aggregate demand is represented in terms of the simple income-expenditure model
...identify the relationship between aggregate demand and potential GNP in the simple income-expenditure model
...given a graph of the income-expenditure model, identify the cases where aggregate demand is either greater or less than potential GNP
...identify the relationship between the income-expenditure model and statistics of potential and actual GNP

Aggregate Demand and Unemployment

...indicate the reasons why the full employment unemployment rate can be greater than zero
...indicate how the unemployment rate will be affected if aggregate demand is less than potential GNP
...indicate why, in the above objective, the unemployment rate will exceed the full employment unemployment rate
...indicate how the unemployment rate will be affected if aggregate demand exceeds potential GNP
...indicate why, in the above objective, the unemployment rate falls below the full employment unemployment rate
...define the GNP gap in absolute terms
...given a graph, identify the GNP gap
...define the GNP gap in percentage terms
...given several equations, identify Okun's Law in terms of the unemployment rate
...given several equations, identify Okun's Law in terms of the %GNP gap
... identify reasons why Okun's Law relationships may change
...apply technically the principles incorporated in Okun's Law
...apply generally the principles incorporated in Okun's Law

Aggregate Demand and Inflation, and Inflationary Bias in the Economy

...indicate how unemployment and inflation are empirically related
...identify some reasons why the economy may experience an inflationary bias
...given a situation where aggregate demand is equal to potential GNP, indicate how prices should react in a competitive market structure according to supply and demand theory
...indicate why the rate of inflation is positive when aggregate demand equals potential GNP
...indicate why the average price level does not ordinarily decrease when aggregate demand falls below potential GNP

The Phillips Curve

...identify the Phillips Curve relationship
...identify the three characteristics of the Phillips Curve
...indicate why, at U_f, the rate of inflation is positive
...indicate for the period of the 1960's and 1970's, when and in what direction the Phillips Curve shifted

...identify reasons why the Phillips Curve would shift
...given a set of linear equations, identify the one which most closely approximates the Phillips Curve
...apply technically the principles incorporated in the Phillips Curve
...apply generally the principles incorporated in the Phillips Curve

Expanding the Model

...identify the recursive relationship between inflation, unemployment, and equilibrium GNP in a system of equations for income-expenditure, Phillips Curve, and Okun's Law
...apply technically the relationships incorporated in the above objective
...apply generally the relationships incorporated in the above objective

Choosing Target Rates of Inflation and Unemployment

...identify the policy maker's choices in terms of setting target rates of inflation and unemployment
...indicate why these choices are constrained to the points on the Phillips Curve
...apply technically, using a welfare function in terms of inflation and unemployment, the policy maker's optimal choice of inflation and unemployment targets
...apply generally, using a welfare function in terms of inflation and unemployment, the policy maker's optimal choice of inflation and unemployment targets

AGGREGATE DEMAND, UNEMPLOYMENT, AND INFLATION

TIPS SURVEY 3

Professor Allen C. Kelley
Duke University

Economics 1.D
Fall 1977

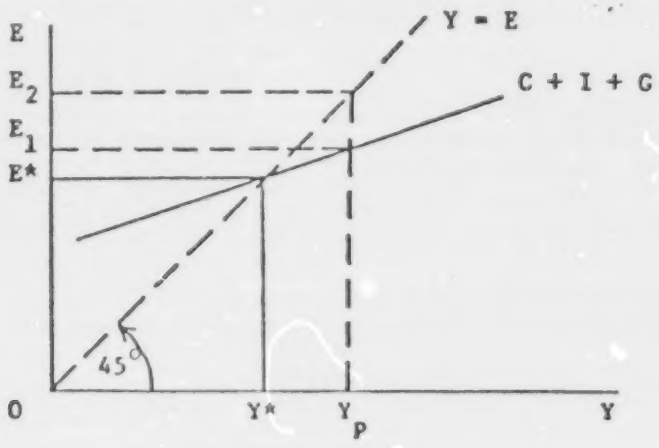
Name:_____ Social Security #:_____

Select the best answer from the alternatives given. Place the number of the correct answer in the blank at the left. After completing the survey, transfer these numbers to the data processing sheet, and complete the indicated identification on that sheet.

Aggregate Demand and Potential GNP

___1. The term aggregate demand is defined to be:
1) the equilibrium level of investment.
2) the equilibrium level of gross national expenditure.
3) the equilibrium level of potential GNP.
4) the equilibrium level of consumption expenditure.

___2. On the income-expenditure graph below, the GNP gap equals:
1) E_1E_2.
2) E_1E^*.
3) Y^*Y_p.
4) OY^*.



___3. Which best describes empirically the relationship between U.S. aggregate demand (Y*), and U.S. potential GNP (Y_p) since 1930?
1) Y* has frequently been less, but occasionally greater than Y_p.
2) Y* has frequently been greater, but occasionally less than Y_p.
3) Y* has deviated above and below Y_p with about equal frequency.
4) There does not seem to have been any systematic relationship between Y* and Y_p.

Aggregate Demand and Unemployment

___4. Which of the following is the equation known as Okun's Law?
1) $U = U_f + c \times \%$ GNP Gap
2) $\%$ GNP Gap $= (1/c)(U - U_f)$
3) neither 1 nor 2 is Okun's Law.
4) both 1 and 2 represent Okun's Law.

Questions 5 and 6 are based on the following data about the U.S. economy.
Actual GNP = 910
Potential GNP = 1000
Full-employment unemployment rate = 5%
The 'c' parameter in Okun's Law = 1/3

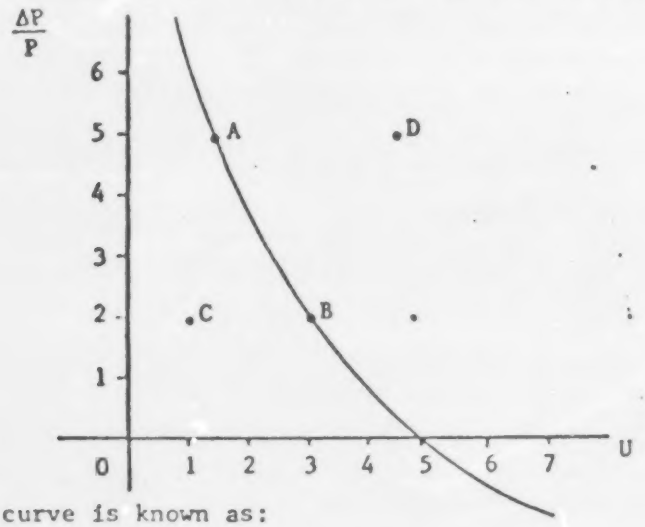
___5. What is the actual change in GNP required to bring about targeted unemployment rate?
1) -90
2) +90
3) -30
4) +30

___6. Based on Okun's Law, what is the 'actual' unemployment rate in this situation?
1) 2%
2) 3%
3) 8%
4) Not enough data is provided to derive the actual unemployment rate.

___7. In the U.S. economy between the 1960's and 1970's the proportion of the work force composed of women and teenagers increased. In analyzing this phenomenon using Okun's Law, one might observe that:
1) the 'c' parameter in Okun's Law has decreased.
2) the 'U_f' variable in Okun's Law has decreased.
3) a given decrease in the GNP gap is likely to result in a larger reduction in unemployment in the 1970's than in the 1960's.
4) a given decrease in the difference between U and U_f is likely to result in a larger reduction in unemployment in the 1970's than in the 1960's.

Aggregate Demand, Inflation, and Policymaking

Questions 8 through 14 will be based on the following curve:



___8. This curve is known as:
1) the Okun Curve.
2) the labor-demand curve.
3) the wage rate - inflation curve.
4) the Phillips curve.

___9. This curve is best described:
1) by the formula $(\Delta P/P) = d + eU$.
2) as 'linear' in shape, as distinct from the 'curvilinear' shape in the graph.
3) as an empirical relationship which may shift or change in shape depending on economic conditions.
4) as a fairly rigorous theoretical model derived from underlying postulates about labor markets and macroeconomic theory.

___10. In terms of U.S. experience, this curve:
1) was reasonably fixed in position over the period 1960 - 1975, with one or two single-year deviations from the fixed position.
2) was somewhat erratic in shifting outward and inward over the period 1960 - 1975.
3) was relatively fixed in position during the 1960's, and then shifted inward during the 1970's.
4) was relatively fixed in position during the 1960's, and then shifted outward during the 1970's.

__11. A reduction in aggregate demand will tend to
1) shift the curve to the left.
2) shift the curve to the right.
3) move the economy from point A to point B.
4) move the economy from point B to point A.

__12. An increase in the world-wide rate of inflation is likely to bring about which of the effects in question 11?
1) 1
2) 2
3) 3
4) 4

__13. In using this curve for policy analysis, in the short-run, economists usually assume that the relevant choices are:
1) between A and B.
2) between C and D.
3) between moving from A to C, or moving from B to C.
4) between moving from A to D, or moving from B to D.

__14. Assuming the social welfare function is $W = -U - 5\ (\Delta P/P)$, the appropriate short-run policy recommendation would be a target $(U, \Delta P/P)$ at:
1) A.
2) B.
3) C.
4) D.

Inflationary Bias - the Expanded Model

__15. An inflationary bias in the U.S. economy is explained by the fact that:
1) the relative importance of markets where excess demand exceeds excess supply dominates, and overall there is a tendency for downward price rigidity.
2) the relative importance of markets where excess supply exceeds excess demand dominates, and overall there is a tendency for downward price rigidity.
3) the number of markets where outward shifts in the demand curve occur exceeds the number of markets where the demand curve is shifting inward.
4) the number of markets where outward shifts in the supply curve occur exceeds the number of markets where the supply curve is shifting inward.

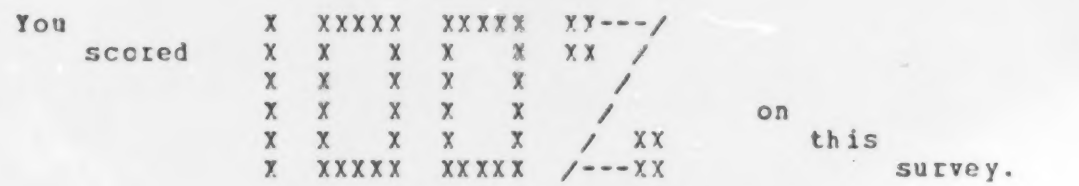
ANSWER KEY

Questions	Answers
1.	2
2.	3
3.	1
4.	4
5.	2
6.	3
7.	3
8.	4
9.	3
10.	4
11.	3
12.	2
13.	1
14.	2
15.	1
16.	4

TIES
Student Progress Report
Principles of Economics (1E.1)
Professor Allen C. Kelley

All-right, Alice
ID # 000111111
Section # 1, 9:00 AM Monday
Section Leader: Mark Bebensee

Survey # 4 (09/17/77)
Effects Of Unemployment & Inflation



For your records, the correct answers for the 16 questions on this survey are: 2 3 1 4 2 3 3 4 3 4 3 2 1 2 1 4.

We are pleased to see that either by knowledge of the material, luck, or surreptitious methods you were able to demonstrate mastery of the material covered by survey 3. In the weeks ahead, continue to apply yourself, retaining the knowledge you have demonstrated. On the other hand, perhaps I should admonish you to hold on to your rabbit's foot and/or cover your tracks.

TIPS
Student Progress Report
Principles of Economics (1E.1)
Professor Allen C. Kelley

Eighty-percent, Alvin
ID # 022222222
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 4 (08/17/77)
Effects Of Unemployment & Inflation

You correctly answered 13 out of the 16 questions on this survey. The following table summarizes your answers as well as the correct answers for this survey. You are urged to make sure that you understand the nature of any incorrect responses which you made.

T A B L E O F R E S P O N S E S

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.	2	2	7.	3	3	13.	1	1
2.	3	3	8.	4	4	14.	2	2
3.	1	1	9.	3	3	15.	2	1
4.	4	4	10.	3	4	16.	4	4
5.	4	2	11.	3	3			
6.	3	3	12.	2	2			

Your score on this survey was not as high as we had hoped. The interaction of unemployment and inflation and their effects on aggregate demand are important concepts to be mastered. These concepts are fundamental to understanding current policy choices and decisions in free-market economies. To ensure that you have a firm grasp of these concepts I would recommend the following review items.

--Review A/K/L, sections 3.1.2.d, 3.1.2.e, and 3.1.2.f. Also review pp. 193 - 196 in McConnell.

--Review A/K/L, section 3.2.1. In McConnell, see pp. 368 - 372. Additionally, complete T-F q. 3 on p. 135 and q.'s 3 and 6 on p. 136 in Bingham.

--Review A/K/L, section 3.1.4.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey. These assignments will be reviewed and a record of completion noted.

TIPS
Student Progress Report
Principles of Economics (1C.1)
Professor Allen C. Kelley

No-show, Joe
ID # C00004444
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 4 (08/17/77)
Effects Of Unemployment & Inflation

Our records indicate that you did not take the survey on 08/17/77. As a result, at this time we do not have any direct indication of your understanding of the material covered by this survey. In these situations, we assign certain readings or problems which assure us that you are familiar with the minimum tools needed to master this aspect of the course. This assignment is not a penalty. Rather, it is a means of ensuring that we have provided you with the tools needed to master more advanced concepts.

--Review A/K/L, sections 3.1.1, 3.1.2, 3.1.4, and 3.2. Review pp. 191 - 201 and 368 - 372 in McConnell. Additionally, complete q. 1 on p. 134, T-F q. 3 on p. 135, and q.'s 3 and 6 on p. 136 in Bingham.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey. These assignments will be reviewed and a record of completion noted.

***** DIAGNOSTIC LISTING OF STUDENT REPORT FORMAT NUMBER 3 *****

TIPS
Student Progress Report
Principles of Economics (1E.1)
Professor Allen C. Kelley

Survey # 4 (08/17/77)
Effects Of Unemployment & Inflation

A [16 thru 16 on G151]

```
A         You          X  XXXXX  XXXXX  XX---/
A             scored   X  X   X  X   X  XX  /
A                      X  X   X  X   X     /
A                      X  X   X  X   X    /        on
A                      X  X   X  X   X   /  XX         this
A                      X  XXXXX  XXXXX  /---XX              survey.
```

A
A For your records, the correct answers for the 16 questions on this
A survey are: 2 3 1 4 2 3 3 4 3 4 3 2 1 2 1 4.
A
B [0 thru 15 on G151]
B You correctly answered ** out of the 16 questions on this survey.
B The following table summarizes your answers as well as the correct
B answers for this survey. You are urged to make sure that you
B understand the nature of any incorrect responses which you made.
B
B T A B L E O F R E S P O N S E S
B

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.		2	7.		3	13.		1
2.		3	8.		4	14.		2
3.		1	9.		3	15.		1
4.		4	10.		4	16.		4
5.		2	11.		3			
6.		3	12.		2			

B
C [-1 thru -1 on G151]
C Our records indicate that you did not take the survey on 08/17/77.
C As a result, at this time we do not have any direct indication of
C your understanding of the material covered by this survey. In these
C situations, we assign certain readings or problems which assure us
C that you are familiar with the minimum tools needed to master this
C aspect of the course. This assignment is not a penalty. Rather,
C it is a means of ensuring that we have provided you with the tools
C needed to master more advanced concepts.
C
D [16 thru 16 on G151]
D We are pleased to see that either by knowledge of the material,
D luck, or surreptitious methods you were able to demonstrate mastery
D of the material covered by survey 3. In the weeks ahead, continue
D to apply yourself, retaining the knowledge you have demonstrated.
D On the other hand, perhaps I should admonish you to hold on to your
D rabbit's foot and/or cover your tracks.

E [12 thru 14 on G151]
E Your score on this survey was not as high as we had hoped. The
E interaction of unemployment and inflation and their effects on
E aggregate demand are important concepts to be mastered. These
E concepts are fundamental to understanding current policy choices
E and decisions in free-market economies. To ensure that you have
E a firm grasp of these concepts I would recommend the following
E review items.
F [9 thru 11 on G151]
F Your performance on this survey is well below our expectations.
F This survey may have been one of the more difficult ones of the
F semester. Nevertheless, we want to be sure that you are ready for
F using the expanded model we have developed in policy-making decisions.
F In looking over the distribution of your responses, I would recommend
F the following review items.
G [0 thru 8 on G151]
G While this is a difficult survey, your performance is not up to the
G threshold required for further development and use of the expanded
G model. It is very important that you learn the relationships between
G unemployment, inflation, and aggregate demand. Your survey score
G does not indicate a satisfactory understanding of the concepts
G necessary for continued progress. Let's work together to correct
G this situation. There will be a special session in room
G on at Please bring your
G survey, class handouts, book, and workbook. We'll take this
G opportunity to go over the survey and review assignments. Before
G the session you should complete the review items listed below. Come
G prepared with questions -- attendance will be taken.
H [-1 thru 0 on G151]
H --Review A/K/L, sections 3.1.1, 3.1.2, 3.1.4, and 3.2. Review
H pp. 191 - 201 and 368 - 372 in McConnell. Additionally, complete
H q. 1 on p. 134, T-F q. 3 on p. 135, and q.'s 3 and 6 on p. 136 in
H Bingham.
I [0 thru 2 on G152]
I --Review A/K/L, sections 3.1.1.a, 3.1.1.c, and 3.1.2.d. Also
I review pp. 194 - 195 in McConnell.
J [0 thru 3 on G153]
J --Review A/K/L, sections 3.1.2.d, 3.1.2.e, and 3.1.2.f. Also
J review pp. 193 - 196 in McConnell.
K [0 thru 4 on G154]
K --Review A/K/L, section 3.2.1. In McConnell, see pp. 368 -
K 372. Additionally, complete T-F q. 3 on p. 135 and q.'s 3 and 6
K on p. 136 in Bingham.
L [0 thru 1 on G155]
L --Review A/K/L, section 3.2.3. Also complete q. 1 on p. 134 in
L Bingham.
M [0 thru 0 on G156]
M --Review A/K/L, section 3.1.4.
N [0 thru 0 on G157]
N --Review A/K/L, section 3.2.2.
O [-1 thru 15 on G151]
O With respect to all suggested learning activities noted above, written
O assignments may be handed in to Mark Bebensee if you would like more
O feedback. This should be done within a week of the date of the survey.
O These assignments will be reviewed and a record of completion noted.

** WE DO NOT HAVE THIS INFORMATION. IF NECESSARY, SEE YOUR INSTRUCTOR.

Inventory of Question Groupings for Survey # 3

G151 -- Macro Unit 3: Survey #3
ALL 16 QUESTIONS ON THE TEST
G152 -- Aggregate Demand And Potential GNP
QSTS 1,2,3
G153 -- Aggregate Demand And Unemployment
QSTS 4,5,6,7
G154 -- Aggregate Demand And Inflation
QSTS 8,9,10,11,12
G155 -- The Phillips Curve And Policy-making
QSTS 13,14
G156 -- Inflationary Bias In The Economy
QSTS 15
G157 -- The Expanded Model
QSTS 16

TIPS Instructional Unit Number 4

Instructional Unit	Using the Expanded Model for Policy-Making
Concept Areas	
Survey 4a	Fiscal Policy Objectives
	Choosing Target and Instrument Variable Levels
Survey 4b	Balanced Budget Multiplier
	Choosing the Size of the Budget Deficit or Surplus
	Fiscal Drag
	Full Employment Budget
Contents	Objectives
	TIPS Survey 4a (& Answer Key)
	Listing of Prescriptions and Decision Rules for Survey 4a
	Sample Student Reports for Survey 4a
	TIPS Survey 4b (& Answer Key)
	Listing of Prescriptions and Decision Rules for Survey 4b
	Sample Student Reports for Survey 4b

OBJECTIVES

USING THE EXPANDED MODEL FOR POLICY-MAKING

Fiscal Policy

...define fiscal policy
...identify several goals of fiscal policy
...identify the economist's roie in formulating fiscal policy
...apply generally the social-welfare-function framework for arriving at fiscal policy, and for determining areas of disagreement over fiscal policy
...define Okun's Law
...apply Okun's Law technically
...indicate the relationship between Okun's Law and the Phillips Curve, using algebraic expressions
...apply technically the concepts of the social welfare function (in terms of P and U), the Phillips Curve, and Okun's Law to determine fiscal policy, using algebraic expressions
...identify why policy-makers may seek a value of U_t which is different from U_f
...apply technically the Phillips Curve and the Okun relationship in arriving at fiscal policy, using graphic tools
...indicate how, using a reduced-form equation for Y*, fiscal policy can be employed to achieve a given target level of Y*
...apply technically the tools of fiscal policy, using the reduced form equation for Y*

Balanced Budget Multiplier

...indicate the difference between the government-expenditure and the government taxation multipliers
...indicate why the expenditure and taxation multipliers are different
...apply technically the expenditure and taxation multipliers in effecting a fiscal policy to achieve a given level of Y*
...indicate the multiplier applicable to an equal change in the same direction of government spending and taxation
...indicate why an equal change in the same direction of government spending and taxation will change the equilibrium level of income
...apply technically the fiscal policy alternative of changing spending and taxation equally to effect a given target level of income
...indicate why there will always be a balanced budget fiscal policy which will bring about a given target level of income
...calculate the level of a balanced budget which will bring about a given target level of national income
...indicate graphically and algebraically the relationship between the level of business investment spending and the level of a balanced government budget required to effect a given target level of income
...indicate graphically the policy-making process in terms of selecting a desired level of U (using the Phillips Curve), determining the target level of equilibrium income (using the Okun relationship), and ascertaining a balanced budget to effect these employment, output, and price goals
...apply technically, given relevant parameters and algebraic specifications, the policy-making process just described

Choosing the Size of the Budget Deficit or Surplus

...define budget deficit
...define budget surplus
...indicate why a given equilibrium level of income can be obtained by a) a budget surplus, b) a budget deficit, or c) a balanced budget
...given Y_t^*, and given a target level of G, as well as relevant specifications for the income-expenditure model, calculate the required level of T to effect the Y_t^* and G_t goals
...identify reasons for implementing alternatively a deficit-, balanced-, or surplus-budget fiscal policy
...indicate graphically the relationship between the goals of equilibrium income, size of government sector, and budgetary balance
...indicate how government deficits may cause inflation

Endogenous Taxes

...define marginal tax rate
...indicate how a linear tax function of the form $T = t_0 + t_1Y$ can capture the progressive nature of the tax structure
...identify the reduced form equation for the income-expenditure model when taxes are endogenous
...identify the expanded elements of fiscal policy when the tax function is endogenous
...indicate how the tax and spending multipliers in the income-expenditure model are affected when taxes are endogenous
...indicate why the multipliers in the income-expenditure model decrease when taxes are endogenous
...apply technically the model of income and expenditure when the tax function is endogenous
...apply generally the income-expenditure model when the tax function is endogenous
...identify the relationship between the size of the spending multipliers in the income and expenditure model and the marginal tax rate
...define built-in stabilizer
...indicate how an endogenous tax function provides a built-in stabilizer
...define discretionary fiscal policy
...calculate the level of T in a model with an endogenous tax function, given the values of the endogenous variables in the income-expenditure framework
...indicate the relationship between the budget deficit and the output gap in an economy with constant levels of government spending, which is growing, where the tax function is endogenous
...define fiscal drag
...identify an appropriate fiscal policy to attenuate the effect of the fiscal drag
...define full-employment surplus
...apply generally the concept of the full-employment surplus

USING THE EXPANDED MODEL FOR POLICY-MAKING

TIPS SURVEY 4A

Professor Allen C. Kelley
Duke University

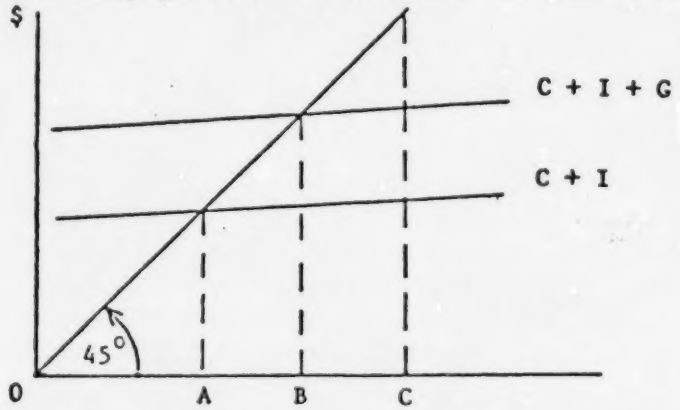
Economics 1.D
Fall 1977

Name:_____ Social Security #:_____

Select the best answer from the alternatives given. Place the number of the correct answer in the blank at the left. After completing the survey, transfer these numbers to the data processing sheet, and complete the indicated identification on that sheet.

___1. Fiscal policy is a course of government action to influence the level of national output chiefly through:
1) encouraging businessmen to make investments at certain critical times.
2) regulation of the volume of trade.
3) use of the government's taxing and spending powers to control total spending.
4) expanding and contracting the money supply.

Answer the following questions on the basis of this diagram:



___2. If the target level of aggregate demand were OC, then it would be appropriate fiscal policy for government to:
1) increase spending and decrease taxes.
2) increase spending and increase taxes.
3) decrease spending and decrease taxes.
4) decrease spending and increase taxes.

___3. If the target level of aggregate demand were OA, which of the above fiscal policies would be appropriate?
1) 1
2) 2
3) 3
4) 4

___4. In a certain year the target level of aggregate demand is expected to be $280 billion. In this same year it is estimated that government expenditures will be $80 billion, taxes $60 billion, consumer expenditures $140 billion, private investment expenditures $80 billion, and saving $80 billion. This economy can be described as having:
1) a deflationary gap.
2) an inflationary gap.
3) a fiscal drag.
4) Okun's Law dilemma.

___5. In question 4 above, to effect the target level of output under these conditions, the government should:
1) encourage private investment by reducing corporate taxes.
2) increase government expenditures.
3) discourage personal saving.
4) increase tax rates.

___6. In using fiscal policy to combat inflation, we would see an appropriate effect from a given change in government expenditures if the government were to:
1) spend more and keep the budget deficit or surplus at its present level.
2) spend more and tax less.
3) spend more and keep tax rates constant.
4) spend less and keep the budget deficit or surplus at its present level.

___7. Assume the economy is in the midst of a severe recession. Which of the following policies would you favor?
1) a reduction in Federal tax rates on personal and corporate income.
2) a postponement of a highway construction program
3) a reduction in agricultural subsidies and veterans' benefits.
4) a Congressional proposal to incur a Federal surplus to be used for the retirement of the public debt.

___8. Increased taxes to finance a new project in a full-employment economy are best defended as:
1) a way to close a deflationary gap, thereby promoting full-employment equilibrium.
2) a way to create a self-liquidating deficit that will close the deflationary gap, thereby equalizing inflationary and non-inflationary tendencies.
3) a way to create a balanced budget, thereby resulting in long-run balanced growth.
4) a way to cut down on other spending to release needed resources, thereby minimizing inflation.

___9. Suppose an economy in which every family must pay taxes of $100 is operating at a non-inflationary target level of aggregate demand and the MPC is .75. The Federal government now finds that it must increase spending for military goods by $21 billion in response to a deterioration in the international political situation. In order to maintain the non-inflationary target level of aggregate demand, the government must:
1) reduce taxes by $21 billion.
2) increase taxes by $28 billion.
3) reduce transfer payments by $21 billion.
4) increase transfer payments by $28 billion.

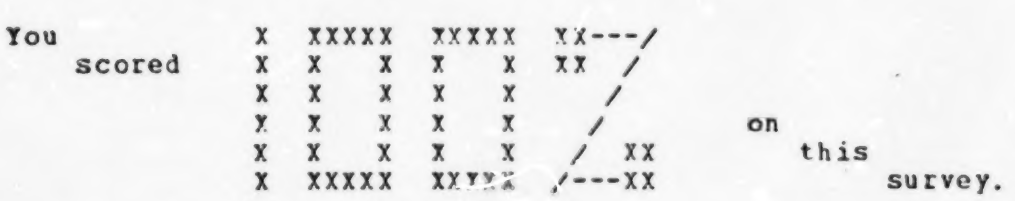
ANSWER KEY

Question	Answer
1.	3
2.	1
3.	4
4.	2
5.	4
6.	4
7.	1
8.	4
9.	2

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

All-right, Alice
ID # 000111111
Section # 1, 9:00 AM Monday
Section Leader: Mark Bebensee

Survey # 5 (08/17/77)
Using The Expanded Model



For your records, the correct answers for the 9 questions on this survey are: 3 1 4 2 4 4 1 4 2.

Great Job! We expect this kind of performance from you each time. Keep up the good work.

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

Eighty-percent, Alvin
ID # 022222222
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 5 (09/17/77)
Using The Expanded Model

You correctly answered 8 out of the 9 questions on this survey. The following table summarizes your answers as well as the correct answers for this survey. You are urged to make sure that you understand the nature of any incorrect responses which you made.

T A B L E O F R E S P O N S E S

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.	3	3	4.	2	2	7.	1	1
2.	1	1	5.	4	4	8.	1	4
3.	4	4	6.	4	4	9.	2	2

--Review A/K/L, section 4.3. Examine q. 11 on p. 107 in Bingham. Additionally, answer problem 4-B in your Course Notebook.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey. These assignments will be reviewed and a record of completion noted.

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

No-show, Joe
ID # 000004444
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 5 (08/17/77)
Using The Expanded Model

You correctly answered 0 out of the 9 questions on this survey. The following table summarizes your answers as well as the correct answers for this survey. You are urged to make sure that you understand the nature of any incorrect responses which you made.

T A B L E O F R E S P O N S E S

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.	2	3	4.	3	2	7.	4	1
2.	4	1	5.	1	4	8.	1	4
3.	1	4	6.	1	4	9.	3	2

While this is a difficult survey, your performance is not up to the threshold required to further your work in fiscal policy analysis. It is imperative that you learn the basics. Policy formulation is an integral part of economics, therefore, falling behind endangers continued progress. Let's work together to get this problem rectified. There will be a special session in room on at Please bring your survey, class handouts, book, and workbook. We'll take this opportunity to go over the handouts and survey. Before the session you should complete the review items listed below. Come prepared with questions -- attendance will be taken.

--Review McConnell, pp. 263 - 271 and A/K/L, section 4.1.

--Complete q. 2 on p. 284 in McConnell. In Bingham, examine multichoice q.'s 2 - 5, 7, and 8 on pp. 99 - 100 as well as q.'s 1, 7 (consumption only), and 8 on p. 101.

--Examine q.'s 7, 9, 10, and 11 on p. 100 in Bingham.

--Review A/K/L, section 4.3. Examine q. 11 on p. 101 in Bingham. Additionally, answer problem 4-B in your Course Notebook.

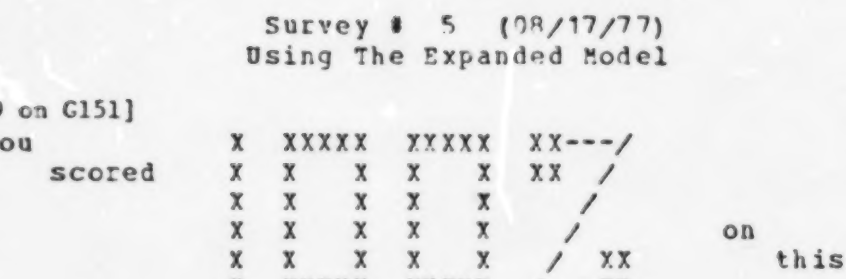
With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey. These assignments will be reviewed and a record of completion noted.

***** DIAGNOSTIC LISTING OF STUDENT REPORT FORMAT NUMBER 41 *****

TIPS
Student Progress Report
Principles of Economics (1P.1)
Professor Allen C. Kelley

Survey # 5 (08/17/77)
Using The Expanded Model

A [9 thru 9 on G151]



A For your records, the correct answers for the 9 questions on this
A survey are: 3 1 4 2 4 4 1 4 2.
A
B [0 thru 8 on G151]
B You correctly answered ** out of the 9 questions on this survey.
B The following table summarizes your answers as well as the correct
B answers for this survey. You are urged to make sure that you
B understand the nature of any incorrect responses which you made.
B
B T A B L E O F R E S P O N S E S
B

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.		3	4.		2	7.		1
2.		1	5.		4	8.		4
3.		4	6.		4	9.		2

B
C [-1 thru -1 on G151]
C Our records indicate that you did not take the survey on 08/17/77.
C As a result, at this time we do not have any direct indication of
C your understanding of the material covered by this survey. In these
C situations, we assign certain readings or problems which assure us
C that you are familiar with the minimum tools needed to master this
C aspect of the course. This assignment is not a penalty. Rather,
C it is a means of ensuring that we have provided you with the tools
C needed to master more advanced concepts.
C
D [9 thru 9 on G151]
D Great Job! We expect this kind of performance from you each
D time. Keep up the good work.
E [6 thru 7 on G151]
E We had hoped for a somewhat better performance on this survey,
E although your score was not really that low for your first attempt
E at fiscal policy; however, to ensure that you are on the right
E track, I would recommend the following review items:
F [4 thru 5 on G151]
F Your performance on this survey is well below our expectations.

F We realize that the concepts of fiscal policy are difficult;
F however, falling behind on these basics is a handicap to your
F application of fiscal policy to more complicated cases. In looking
F over the distribution of your responses, I would recommend that
F you complete the following review items:
G [0 thru 3 on G151]
G While this is a difficult survey, your performance is not up to
G the threshold required to further your work in fiscal policy analysis.
G It is imperative that you learn the basics. Policy formulation is
G an integral part of economics, therefore, falling behind endangers
G continued progress. Let's work together to get this problem
G rectified. There will be a special session in room
G on at Please bring your
G survey, class handouts, book, and workbook. We'll take this
G opportunity to go over the handouts and survey. Before the session
G you should complete the review items listed below. Come prepared
G with questions -- attendance will be taken.
H [-1 thru 0 on G151]
H --Review McConnell pp. 263 - 271; also see q. 2, p. 284. In
H A/K/L, review sections 4.1 and 4.3. Examine multichoice q,'s
H 2 - 5 and 7 - 11 on pp. 99 - 100 in Bingham; also on p. 101, q.'s
H 1, 7 (consumption only), 8, and 11. Additionally, work through
H problem 4-B in your Course Notebook.
I [0 thru 3 on G152 or 0 thru 1 on G153]
I --Review McConnell, pp. 263 - 271 and A/K/L, section 4.1.
J [0 thru 4 on G152]
J --Complete q. 2 on p. 284 in McConnell. In Bingham, examine
J multichoice q.'s 2 - 5, 7, and 8 on pp. 99 - 100 as well as q.'s
J 1, 7 (consumption only), and 8 on p. 101.
K [0 thru 1 on G153]
K --Examine q.'s 7, 9, 10, and 11 on p. 100 in Bingham.
L [0 thru 1 on G154]
L --Review A/K/L, section 4.3. Examine q. 11 on p. 101 in
L Bingham. Additionally, answer problem 4-B in your Course
L Notebook.
M [-1 thru 8 on G151]
M With respect to all suggested learning activities noted above, written
M assignments may be handed in to Mark Bebensee if you would like more
M feedback. This should be done within a week of the date of the survey.
M These assignments will be reviewed and a record of completion noted.

** WE DO NOT HAVE THIS INFORMATION. IF NECESSARY, SEE YOUR INSTRUCTOR.

Inventory of Question Groupings for Survey # 4a

G151 -- Macro Unit 4: Survey #4a
ALL 9 QUESTIONS ON THE TEST
G152 -- Fiscal Policy
QSTS 1,2,3,4,5
G153 -- Fiscal Policy: Inflation; Recession
QSTS 6,7
G154 -- Full-employment Fiscal Policy
QSTS 8,9

///

USING THE EXPANDED MODEL FOR POLICY-MAKING

TIPS SURVEY 4B

Professor Allen C. Kelley
Duke University

Economics 1.D
Fall 1977

Name:_____ Social Security #:_____

Select the best answer from the alternatives given. Place the number of the correct answer in the blank at the left. After completing the survey, transfer these numbers to the data processing sheet, and complete the indicated identification on that sheet.

___1. How does the effect of an increase in investment spending on equilibrium income in a model where tax revenues are endogenous differ from the effect of that same change in a model where tax revenues are exogenous?
1) The effects are equal.
2) The stimulatory effect is smaller when taxes are endogenous.
3) The stimulatory effect is negative when taxes are endogenous.
4) The stimulatory effect is larger when taxes are endogenous.

___2. Built-in-stability refers to the fact that:
1) government expenditures and tax receipts automatically balance over the course of the business cycle, though they may be out of balance in any single year.
2) Congress will automatically change the tax structure and expenditure programs to correct upswings and downswings in business activity.
3) With given tax rates and expenditure policies, a rise in national income will tend to produce a surplus while a decline will tend to produce a deficit.
4) An annually balanced budget will automatically tend to offset the procyclical tendencies created by state and local finance and thereby stabilize the economy.

___3. The effectiveness of the built-in or automatic stabilizers is limited by the fact that:
1) Congress usually acts slowly in legislating changes in tax rates.
2) the stabilizers tend to raise the general price level regardless of the phase of the business cycle.
3) the offset to a change in private spending which the stabilizers provide is typically less than the change in private spending.
4) transfer payments and subsidies increase during booms and decrease during recessions.

112

___4. The full-employment budget surplus means:
1) the budget surplus that would develop, given the existing tax rates and spending structure, if the economy were to be at its full-employment level.
2) the excess of full-employment GNP over the present level GNP.
3) the requirement of fiscal policy that there be a budget surplus at full employment.
4) the rate of growth in GNP that is possible when full employment is maintained.

___5. The actual budget deficit of the Federal government in 1970 was about $13 billion. On the basis of this information:
1) it can be concluded that fiscal policy was expansionary in 1970.
2) it can be concluded that fiscal policy was contractionary in 1970.
3) it cannot be determined whether fiscal policy had an expansionary or a contractionary impact in 1970, since the deficit could be associated with either a full-employment surplus or deficit.
4) it cannot be determined whether fiscal policy had an expansionary or a contractionary effect because 1970 may have been a period when the GNP gap was either larger or smaller than the one predicted by Okun's Law.

___6. The tax cut of 1964 is believed by most economists to have demonstrated
1) the effectiveness of changes in tax rates as a tool for fighting inflation.
2) the effectiveness of changes in tax rates in removing a deflationary gap.
3) the ineffectiveness of changes in tax rates in removing a full-employment deficit.
4) the ineffectiveness of changes in tax rates in offsetting the fiscal drag.

___7. During the 1950's, President Eisenhower attempted to create a budgetary surplus by trimming government spending to the point that projected tax revenues exceeded planned government spending. Tax collections, however, turned out to be less than projected, and by the end of the year there was actually a deficit in the federal budget. What Eisenhower apparently failed to fully appreciate was that:
1) Congressional Democrats could alter the income tax structure, thus creating a "fiscal drag."
2) the reduced government spending would have a contractionary effect on output and income and thus reduce tax collections.
3) there was likely to be a shifting of real incomes between the rich and the poor, and tax collections would decrease as a result.
4) increased government spending was necessary in order to create a budgetary surplus.

Answer questions 8-11 on the basis of the following problem.

You are planning a visit to Outer Mongolia and will be working with their Central Economic Planning Unit, known as CE-PU. You have been given some materials before your trip and a set of problems to consider for the first day of meetings. The Outer Mongolian economists have provided a plan with the following model of their economy. (all figures in billions)

$C = 30 + (2/3)\ Y_d$
$Y_d = Y - T$
$E = C + \bar{I} + \bar{G}$, where $\bar{I}$ = investment expenditures = 200
$\bar{G}$ = government expenditures = 200

$Y = E$

The tax rate is 10 percent of income. ($T = .1Y$)

___8. Calculate the level of actual aggregate demand.
1) 1075
2) 2155
3) 3225
4) 4300

___9. Suppose that the President of Outer Mongolia has impounded (failed to spend) $1 billion in order to reduce government expenditures he considers inflationary. The legislators, upset by this move and fearing a recession, pass a tax cut of $1 billion. Assuming the tax system is exogenous instead of endogenous as described above, will the tax legislators succeed in offsetting the President's reductions?
1) Yes. The two policies will have a counterbalancing effect.
2) No. National income will fall by $1 billion due to the balanced budget multiplier.
3) Yes. National income will increase by $1 billion due to the balanced budget multiplier.
4) No. It was necessary to impose a smaller tax cut.

__10. Last year employers in Outer Mongolia withheld an excess of $9 billion in taxes from their employees. When this excess is refunded to individuals, what will be the effect on total income if the MPC = 2/3 and taxes remain exogenously given?
1) an increase of 6 billion
2) an increase of 9 billion
3) an increase of 18 billion
4) an increase of 27 billion

__11. If the MPC of the rich in Outer Mongolia is less than the MPC of the poor, a tax system that redistributed income to the poor might raise the MPC for the economy. What would be the effect on the value of the multiplier if the economy's MPC increases?
1) The value of the multiplier would decrease.
2) The value of the multiplier would increase.
3) The value of the multiplier would be unaffected.
4) There is not enough information given to make an assessment.

__12. Suppose that government expenditures equal $300, and taxes are exogenously determined and equal $300. Also suppose that the MPC = .75, and the actual level of aggregate demand is equal to $1300. If government expenditures were then increased to $375, by how much would taxes have to be changed so that the level of aggregate demand remains the same?
1) decreased by $75
2) increased by $75
3) decreased by $100
4) increased by $100

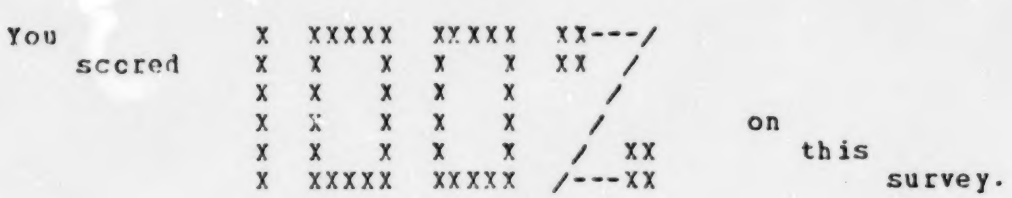
ANSWER KEY

Question	Answer
1.	2
2.	3
3.	3
4.	1
5.	3
6.	2
7.	2
8.	1
9.	2
10.	3
11.	2
12.	4

TIPS
Student Progress Report
Principles of Economics (ID.1)
Professor Allen C. Kelley

All-right, Alice
ID # 000111111
Section # 1, 9:00 AM Monday
Section Leader: Mark Bebensee

Survey # 6 (08/17/77)
Using The Expanded Model



For your records, the correct answers for the 12 questions on this survey are: 2 3 3 1 3 2 2 1 2 3 2 4.

Excellent! It seems that you have mastered the material covered by this survey. Please continue your good work.

TIPS
Student Progress Report
Principles of Economics (IE.1)
Professor Allen C. Kelley

Eighty-percent, Alvin
ID # 022222222
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 6 (09/17/77)
Using The Expanded Model

You correctly answered 10 out of the 12 questions on this survey. The following table summarizes your answers as well as the correct answers for this survey. You are urged to make sure that you understand the nature of any incorrect responses which you made.

T A B L E O F R E S P O N S E S

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.	2	2	5.	1	3	9.	2	2
2.	3	3	6.	2	2	10.	2	3
3.	3	3	7.	2	2	11.	2	2
4.	1	1	8.	1	1	12.	4	4

Your score on this survey was not as high as we had hoped. Advanced fiscal policy is a fundamental concept of economics. Therefore, to ensure that you are grasping the necessary tools, I would recommend the following review items.

--Review A/K/L, section 4.4.5. Review McConnell, p. 274 - 276, and define the "full-employment budget", explaining its significance. Also examine q. 12 on p. 101 in Bingham.

--Complete problems 4-C and 4-D in your Course Notebook.

--An important point must be made in regard to an analysis of the questions you missed on this survey. Economics involves learning facts and principles plus the ability to apply these principles to new situations. The latter is the more difficult goal. Questions 8 - 12, of which you correctly answered 4, test the application goals. Your performance on this type of question could benefit from some more intensive work on these materials. Don't get discouraged. It may take several cases to achieve these goals. If you have any problems, see Carol Swartz.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey. These assignments will be reviewed and a record of completion noted.

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

Mc-show, Joe
ID # 000004444
Section # 2, 10:10 AM Monday
Section Leader: Carol Swartz

Survey # 6 (08/17/77)
Using The Expanded Model

Our records indicate that you did not take the survey on 08/17/77. As a result, at this time we do not have any direct indication of your understanding of the material covered by this survey. In these situations, we assign certain readings or problems which assure us that you are familiar with the minimum tools needed to master this aspect of the course. This assignment is not a penalty. Rather, it is a means of ensuring that we have provided you with the tools needed to master more advanced concepts.

--Review A/K/L, section 4.4 (especially 4.4.2.g, 4.4.2.h, and 4.4.5). Review McConnell, pp. 271 - 276, and complete q. 5 on p. 284. In Bingham, examine q.'s 9 and 10 on p. 100 as well as q.'s 9 - 12 on p. 101. Additionally, work through problems 4-C and 4-D in the Course Notebook.

With respect to all suggested learning activities noted above, written assignments may be handed in to Carol Swartz if you would like more feedback. This should be done within a week of the date of the survey. These assignments will be reviewed and a record of completion noted.

***** DIAGNOSTIC LISTING OF STUDENT REPORT FORMAT NUMBER 42 *****

TIPS
Student Progress Report
Principles of Economics (1D.1)
Professor Allen C. Kelley

Survey # 6 (08/17/77)
Using The Expanded Model

A [12 thru 12 on G151]

```
A        You            X  XXXXX  XXXXX  XX---/
A            scored     X  X   X  X   X  XX  /
A                       X  X   X  X   X     /
A                       X  X   X  X   X    /        on
A                       X  X   X  X   X   /  XX        this
A                       X  XXXXX  XXXXX  /---XX             survey.
```

A
A For your records, the correct answers for the 12 questions on this
A survey are: 2 3 3 1 3 2 2 1 2 3 2 4.
A
B [0 thru 11 on G151
B You correctly answered ** out of the 12 questions on this survey.
B The following table summarizes your answers as well as the correct
B answers for this survey. You are urged to make sure that you
B understand the nature of any incorrect responses which you made.
B
B T A B L E O F R E S P O N S E S
B

QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.	QUES. NUMB.	YOUR ANSW.	CORR. ANSW.
1.		2	5.		3	9.		
2.		3	6.		2	10.		3
3.		3	7.		2	11.		2
4.		1	8.		1	12.		4

B
C [-1 thru -1 on G151]
C Our records indicate that you did not take the survey on 08/17/77.
C As a result, at this time we do not have any direct indication of
C your understanding of the material covered by this survey. In these
C situations, we assign certain readings or problems which assure us
C that you are familiar with the minimum tools needed to master this
C aspect of the course. This assignment is not a penalty. Rather,
C it is a means of ensuring that we have provided you with the tools
C needed to master more advanced concepts.
C
D [12 thru 12 on G151
D Excellent! It seems that you have mastered the material covered
D by this survey. Please continue your good work.
E [9 thru 10 on G151]
E Your score on this survey was not as high as we had hoped. Advanced
E fiscal policy is a fundamental concept of economics. Therefore, to
E ensure that you are grasping the necessary tools, I would recommend
F the following review items.
F [6 thru 8 on G151]

F Your performance on this survey is well below our expectations. We
F realize that the concepts of the policy models are difficult; however,
F falling behind now will hinder your progress as the models are further
F complicated. In looking over the distribution of your responses, I
F would recommend that you complete the following review items.
G [0 thru 5 on G151]
G While this is a difficult survey, your performance is not up to
G requirements for work on more complicated cases. It is imperative
G that you understand the key concepts in policy application. We
G need to work together to clear these problems. There will be a
G special session in room on
G at Please bring your survey, class handouts, book, and
G workbook. We'll take this opportunity to rework the survey problems
G and your review assignments. Before the session you should
G complete the review items listed below. Please come prepared with
G questions -- attendance will be taken.
H [-1 thru 0 on G151]
H --Review A/K/L, section 4.4 (especially 4.4.2.g, 4.4.2.h, and
H 4.4.5). Review McConnell, pp. 271 - 276, and complete q. 5 on
H p. 284. In Bingham, examine q.'s 9 and 10 on p. 100 as well as
H q.'s 9 - 12 on p. 101. Additionally, work through problems 4-C
H and 4-D in the Course Notebook.
I [0 thru 0 on G152]
I --Review A/K/L, section 4.4, especially 4.4.2.g.
J [0 thru 1 on G153]
J --Review McConnell, pp. 271 -274, and examine the first five
J parts of q. 5 on p. 284. Review A/K/L, section 4.4.2.h.
J Additionally, complete q.'s 9 and 10, p. 100, and q.'s 9 - 11,
J p. 101 in Bingham.
K [0 thru 3 on G154]
K --Review A/K/L, section 4.4.5. Review McConnell, p. 274 - 276,
K and define the "full-employment budget", explaining its
K significance. Also examine q. 12 on p. 101 in Bingham.
L [0 thru 4 on G155]
L --Complete problems 4-C and 4-D in your Course Notebook.
L
L --An important point must be made in regard to an analysis of the
L questions you missed on this survey. Economics involves learning
L facts and principles plus the ability to apply these principles to
L new situations. The latter is the more difficult goal. Questions
L 8 - 12, of which you correctly answered **, test the application
L goals. Your performance on this type of question could benefit
L from some more intensive work on these materials. Don't get
L discouraged. It may take several cases to achieve these goals.
L If you have any problems, see Mark Petersee.
M [-1 thru 11 on G151]
M With respect to all suggested learning activities noted above, written
M assignments may be handed in to Mark Petersee if you would like more
M feedback. This should be done within a week of the date of the survey.
M These assignments will be reviewed and a record of completion noted.

** WE DO NOT HAVE THIS INFORMATION. IF NECESSARY, SEE YOUR INSTRUCTOR.

Inventory of Question Groupings for Survey # 4b

G151 -- Macro Unit 4: Survey #4b
ALL 12 QUESTIONS ON THE TEST
G152 -- Endogenous Taxes
QSTS 1
G153 -- Built-in Stabilizers
QSTS 2,3
G154 -- Full-employment Budget
QSTS 4,5,6,7
G155 -- Case Study
QSTS 8,9,10,11,12

COURSE NOTEBOOK

Economics I.D.

Professor Allen C. Kelley
Duke University
Fall 1977

Preface

The materials in this course notebook accompany the lecture outlines distributed for this class. Some of the topics covered in the lecture outline are not taken up in either McConnell or Bingham. The Course Notebook presents selected exercises to assist you in these particular areas. The numbering scheme corresponds to the four main units in the lecture outline where the topic is covered.

Problem 2-A

Construct a model around the following situation:

The Grant Foster Firm produces sunglasses. In its production process it uses only labor (L). It pays a wage rate (W) which is determined entirely by the union. The firm is in business to make profits (P), which is the difference between sales (S) and costs (C). The total cost is by definition the amount of labor used in production times the wage rate. The amount of laborers who show up for work depends on the wage rate. In particular, assume $L = aW$. Sales, in turn, depend on the number of sunny days (N, such that $S = bN$).

On your work sheet construct a model of this situation, assuming the wage rate and the number of sunny days are both exogenously given. Answer the following questions concerning this model:

___ 1. This model has how many endogenous variables:

a. 2
b. 3
c. 4
d. 5

___ 2. This model has how many exogenous variables:

a. 2
b. 3
c. 4
d. 5

___ 3. Identify one of the parameters in this model:

a. S
b. N
c. W
d. b

___ 4. Which one of the following structural relationships in the model is a behavioral relationship?

a. Sales depend on the number of sunny days.
b. Total cost is the amount of labor utilized times the wage rate.
c. Profits are the difference between sales and cost.
d. The wage rate is determined entirely by the union.

___ 5. Which one of the following structural relationships is an identity?

a. The amount of laborers who show up for work depends on the wage rate.

b. Profits are the difference between sales and cost.

c. Sales depend on the number of sunny days.

d. The number of sunny days is exogenously given.

___ 6. Identify the reduced form equation for P:

a. $P - S - C$

b. $P = bN - WL$

c. $P = bN - aW^2$

d. $P = C - bN$

___ 7. Suppose $N = 180$, $W = 20$, $a = 8$ and $b = 60$. What is the value of P?

a. 10,640

b. 9,520

c. 7,600

d. 6,000

Now suppose that the wage rate depends on the wage the competing firm is offering (R, such that $W = cR$). This wage rate (R) is exogenously given. What is the impact of this addition to the above model?

___ 8. The number of exogenous variables:

a. changes to 3.

b. changes to 4.

c. changes to 5.

d. remains the same.

___ 9. The number of endogenous variables changes to:

a. 3

b. 4

c. 5

d. 6

___10. In terms of specification:

a. a variable previously exogenous is now endogenous.

b. a variable previously endogenous is now exogenous.

c. the previous variables are the same, but an additional identity is now provided.

d. a previous identity is now a behavioral equation.

___11. What is the altered reduced form equation for P?

a. $P = bN - c^2R^2$

b. $P = bN - ac^2R^2$

c. $P = bN - WL$

d. $P = bN - aW^2$

___12. Suppose that the competing firm is offering a wage rate R = 25 and c = .6. What is the value of P in the revised model?

a. 10,800

b. 9,575

c. 9,000

d. 7,600

Problem 2-B

Construct a model around the following situation:

Labor markets have frequently been an area of interest in policy discussions because of their relationship to unemployment. Unemployment (U) is the difference between the supply of labor (S) and the demand for labor (D). The demand for labor depends upon commodity prices (P) and the prices of other inputs (I). The supply of labor depends upon the wage rate (W) and the availability of workers (A). Commodity prices, the prices of other inputs, the wage rate, and the availability of workers are determined by factors outside the model.

___ 1. This model has how many endogenous variables:

a. 2
b. 3
c. 4
d. 5

___ 2. This model has how many exogenous variables:

a. 2
b. 3
c. 4
d. 5

___ 3. Which of the following structural relationships is an identity?

a. Unemployment is the difference between the supply of labor and the demand for labor.
b. The wage rate is determined by factors outside the model.
c. The demand for labor depends upon commodity price.
d. The availability of workers is exogenous to the model.

___ 4. Of the above structural relationships, which is a behavioral relationship?

a. a
b. b
c. c
d. d

___ 5. In terms of specification, the labor market model:

a. has more structural relationships than it has endogenous variables.

b. has fewer structural relationships than it has endogenous variables.

c. has exactly the same number of behavioral relationships as it has identities.

d. has as many structural relationships as it has endogenous variables.

Suppose the following explicit equations describe the labor market model:

$$U = S - D$$

$$D = 1 + .4P + .5(I)$$

$$S = 2 + .8W + .4A$$

___ 6. Identify the reduced form equation for U:

a. $U = S - D$

b. $U = 3 + .4P + .5(I) + .8W + .4A$

c. $U = 1 + .8W + .4A - .4P - .5(I)$

d. $U = .8W + .4A - .4P - .5(I)$

___ 7. Suppose W = 100, A = 300, P = 20, I = 80, what is the value of U?

a. 249

b. 169

c. 153

d. 45

Now suppose that commodity prices are dependent on the demand for goods (G) and the wage rate depends upon the percent unionization in the area (Z). The demand for the goods and the unionization figures are exogenously given. What is the impact of this addition to the model?

___ 8. The number of endogenous variables changes to:

a. 3

b. 4

c. 5

d. 6

___ 9. If we assume that W = .6Z and P = .5G, what is the altered reduced form equation for U?

a. $U = 1 + .48Z + .4A - .2G - .5(I)$

b. $U = 3 + .48Z + .4A - .2G - .5(I)$

c. $U = 1 + .8W - .6Z + .4A - .4P + .5G - .5(I)$

d. $U = 3 + .8W - .6Z + .4A - .4P + .5G - .5(I)$

___10. In terms of specification:

a. the model has not changed; there are as many structural relationships as there are endogenous variables.

b. there are now more structural relationships than endogenous variables.

c. there are now more structural relationships than endogenous variables.

d. the previous variables are the same, but an additional identity is provided.

___11. Suppose Z = 50 and G = 100, what is the value of U in the revised model?

a. 173

b. 123

c. 106

d. 85

Problem 2-C

Construct a model around the following situation:

Mr. Simmons is a buyer for Lord & Taylor's ladies apparel. He is allocated a certain income (Y) with which to make purchases at the designers' showing. This year he has been assigned to purchase only dresses (D) or pantsuits (P). The number of dresses (D) he purchases depends on the evening wear collection (E) and the sportswear selection (S). The number of pantsuits (P) he purchases depends on the previous year's customer demand (C) for pantsuits. Assuming he spends his entire income at the showing, his total cost or income must equal the value of the dresses he purchases plus the value of the pantsuits. In particular, $Y = P_D D + P_P P$. The prices of the items of clothing and the evening wear and sportswear collections are determined solely by the designers.

___ 1. This model has how many endogenous variables:

a. 2
b. 3
c. 4
d. 5

___ 2. This model has how many exogenous variables:

a. 2
b. 3
c. 4
d. 5

___ 3. Which of the following structural relationships is an identity?

a. The number of pantsuits purchased is related to last year's customer demand.
b. The total cost equals the value of the items purchased.
c. The prices of the items of clothing are determined by the designer.
d. The previous year's customer demand is determined outside the model.

___ 4. Which of the above structural relationships is a behavioral relationship?

a. a
b. b
c. c
d. d

Suppose the following explicit equations describe the above example:

$Y = P_D D + P_P P$

$D = .6E + .4S$

$P = .8C$

___ 5. Identify the reduced form equation for Y

a. $Y = P_D D + P_P P$

b. $Y = .6E + .4S + .8C$

c. $Y = (.6E + .4S)D + (.8C)P$

d. $Y = (.6E + .4S)P_D + (.8C)P_P$

___ 6. Suppose P_D = \$100, P_P = \$80, E = 20, S = 15, and C = 70. What is the value of Y?

a. \$6280

b. \$7400

c. \$9040

d. \$9100

Suppose Lord and Taylor budgets Mr. Simmons to \$8000 for the showing. What is the impact of this addition to the above model?

___ 7. The number of endogenous variables

a. changes to 2.

b. changes to 3.

c. changes to 4.

d. remains the same.

___ 8. The number of exogenous variables:

a. changes to 4.

b. changes to 5.

c. changes to 6.

d. remains the same.

___ 9. In terms of specification:

a. a variable previously endogenous is now exogenous.

b. a variable previously exogenous is now endogenous.

c. the previous variables are the same, but an additional behavioral equation is provided.

d. the previous variables are the same, but an additional identity is provided.

___10. Is this altered model exactly identified?

a. Yes, the number of endogenous variables equals the number of equations.

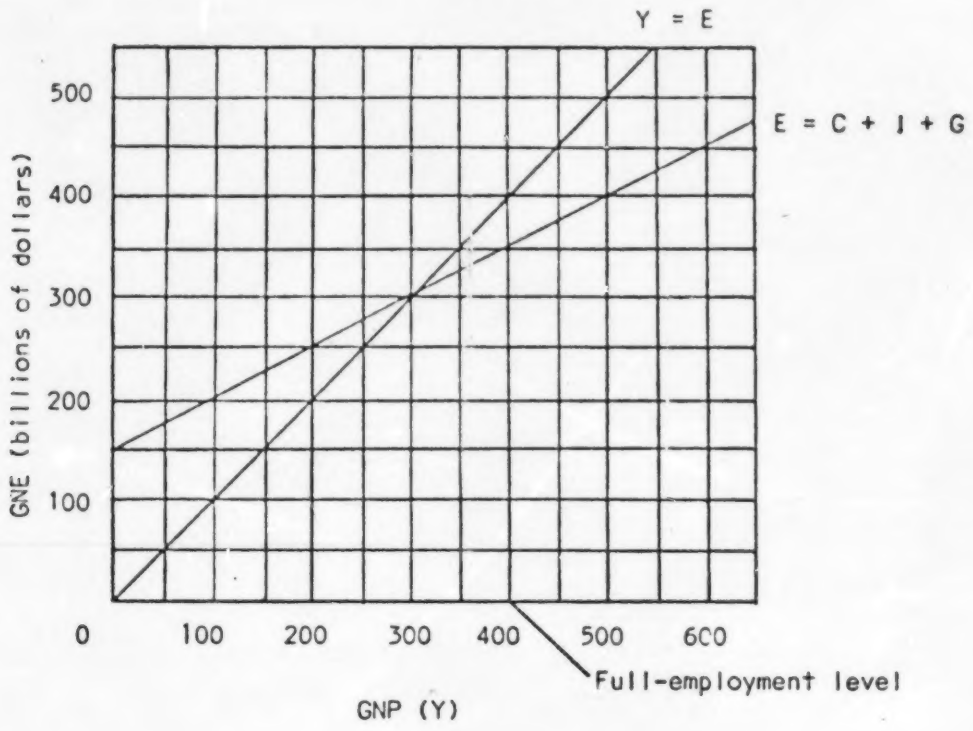
b. Yes, the number of exogenous variables equals the number of equations.

c. No, the number of equations is greater than the number of endogenous variables.

d. No, the number of equations is less than the number of endogenous variables.

Problem 4-A (accompanies A/K/L 4.1.3)

Below is a graph of an aggregate-demand schedule for a hypothetical economy, showing an estimated full-employment level of 400 GNP.



a. What will be the actual GNP level in equilibrium? _____

b. How big is the gap between actual and potential, or full-employment, GNP? *(Hint: Measure along the horizontal axis.)* _____

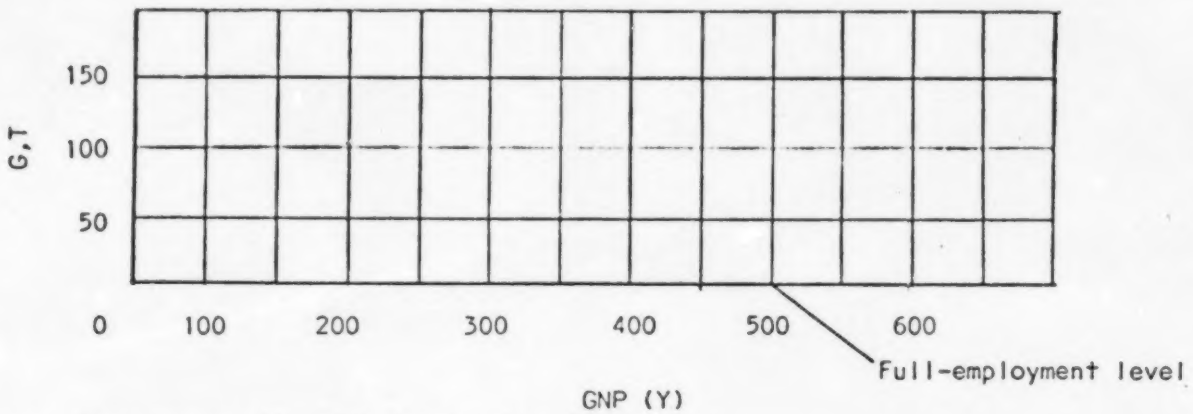
c. How much of an increase in aggregate demand would be needed to move GNP from actual to full-employment GNP? *(Hint: Measure along the vertical axis.)* _____

d. Explain in a few words why your answer to (c) is different from your answer to (b).

e. What fiscal policy measures would be appropriate in this situation?

Problem 4-B (accompanies A/K/L 4.3.1.)

Say that, for all levels of income, G will be $100 billion and net taxes (taxes minus transfer payments) will be .25Y. Plot G and T on the graph below, and answer the questions. Suppose that the full-employment level of GNP is $500 billion.



a. The budget will be balanced at a GNP of _____.

b. At GNP of $200 billion, the budget will show a (deficit/surplus) of _____.

c. At full-employment GNP, the budget will show a (deficit/surplus) of _____.

d. From the information given above, can we determine the equilibrium level of GNP? _____.

Problem 4-C (accompanies A/K/L 4.1.3.)

How a Fiscal Shot in the Arm Worked

Here is how the CEA in its Economic Report of 1964 described the way the gap of almost $30 billion between actual and potential GNP would be closed by the 1964 tax cut. (Personal income-tax rates were cut across the board from brackets of 18-91 percent to 14-70 percent. Corporate profit tax rates were cut from 30 to 22 percent of the first $25,000 and from 52 to 48 percent of the excess over $25,000.)

> The process by which an $11.1 billion tax cut can add as much as $30 billion to total demand has been frequently described and needs only to be summarized briefly here.
>
> If the new proposed personal income tax rates were in full effect today, disposable after-tax incomes of consumers would be approximately $8.8 billion higher than they are, at present levels of pretax incomes. In addition, if the lower corporate tax rates were now in effect, after-tax profits would be about $2.3 billion higher. Based on past dividend practice, one can assume that corporate dividends received by individuals (after deducting personal income taxes on such dividends) would then be more than $1 billion higher, giving a total increment of consumer after-tax incomes -- at present levels of production -- of about $10 billion.
>
> Since consumer spending on current output has remained close to 93 percent of disposable income in each of the past dozen years, one can safely project that consumer spending would rise by about 93 percent of the rise in disposable incomes, or by over $9 billion . . .
>
> But this is far from the end of the matter. The higher production of consumer goods to meet this extra spending would mean extra employment, higher payrolls, higher profits and higher farm and professional and service incomes. This added purchasing power would generate still further increases in spending and incomes in an endless, but rapidly diminishing, chain. The initial rise of $9 billion, plus this extra consumption spending and extra output of consumer goods would add over $18 billion to our annual GNP -- not just once, but year-in and year-out, since this is a permanent, not a one-shot tax cut. We can summarize this continuing

process by saying that a "multiplier" of approximately 2 has been applied to the direct increment of consumption spending.

But that is not the end of the matter either. For the higher volume of sales, the higher productivity associated with fuller use of existing capacity, and the lower tax rates on corporate profits also provided by the tax bill, would increase after-tax profits, and especially the rate of expected after-tax profit on investment in new facilities. Adding to this the financial incentives embodied in last year's tax changes, which are yet to have their full effect, one can expect a substantial induced rise in business plant and equipment spending, and a rise in the rate of inventory investment. Further, higher consumer incomes will stimulate extra residential construction; and the higher revenues that state and local governments will receive under existing tax rates will prompt a rise in their investments in schools, roads, and urban facilities. The exact amount of each of these increases is hard to estimate with precision. But it is reasonable to estimate their sum as in the range of $5 to $7 billion. This extra spending would also be subject to a multiplier of 2 as incomes rose and consumer spending increased. Thus there would be a further expansion of $10 to $14 billion in GNP to add to the $18 billion or so from the consumption factor alone. The total addition to GNP would match rather closely the estimated $30 billion gap.

The tax cut worked very much as predicted. Later, inflationary difficulties came from the second shot in the arm, an increase of over $28 billion from 1965 to 1968 in federal defense expenditures mostly reflecting the Vietnam escalation.

Questions

1. Write the equation for the CEA's marginal propensity to consume out of disposable income. _____
2. The CEA assumes that incremental withdrawals are about what fraction of incremental incomes? _____
3. How could a reduction of corporate income tax rates result in an increase of disposable personal income?

4. Total increase in disposable income predicted from the tax cut is _____. Total increase in consumer spending predicted initially from the tax cut is _____. When multiplied it would add how much to the GNP? _____.
5. For what reason does the CEA also predict a rise in investment to occur?

6. Why does the Council expect state and local governments to increase their spending?

7. Total anticipated increases from 5 and 6 above, when multiplied, are predicted to add how much to GNP?_____
8. Total rise in GNP predicted from the tax cut is _____

Problem 4-D (accompanies A/K/L 4.4.4. - 4.4.5.)

Fiscal Drag and the Full-Employment Surplus

The arguments of the Council of Economic Advisers on behalf of the tax cut of 1964 made explicit use of the analysis of this and preceding chapters. The terms "fiscal drag" and "full-employment surplus" even seem to have originated with economists in the Kennedy administration, to describe the need for a less restrictive fiscal policy to reduce unemployment and stimulate economic growth.

The CEA's *Economic Report of the President* for 1964 described the concept of the full-employment surplus thus:

> The economic impact of a given budget program is best measured by its surplus or deficit at full-employment income levels. The surplus in the full-employment budget is too large when the Government demand contained in the budget, and private investment and consumption demands forthcoming from after-tax incomes, are insufficient to bring total output to the full-employment level. The actual budget will then show a smaller surplus or larger deficit than the full employment . . .
>
> In a growing economy, periodic budget adjustments are required to maintain adequate expansion of total demand. The volume of tax revenues rises as incomes grow if tax rates remain unchanged. At present tax rates, the revenues that the Federal Government would collect at full employment increase by more than $6 billion a year. If program needs do not require expenditures to grow at the same rate, tax rates must be reduced, or a growing full-employment surplus will result, with increasingly restrictive effects on the economy.
>
> In the past this very process has been a major factor in slowing expansions and precipitating downturns. Thus, the consequences of excess potential surpluses have been large actual deficits, unemployment, and inability to achieve steady growth.
>
> To avoid these consequences, an appropriate expansion-promoting fiscal program would call for tax and expenditure policies that prevent a constrictive rise in the full-employment surplus. The experience of the past 10 years has illustrated the tendency of full-employment surplus to build up to expansion-retarding levels as the economy grows. The tax reductions of 1964 will be a giant step to remove a burdensome fiscal restraint before the economy levels off or goes into a recession, and to provide a framework for continued vigorous growth.

Here are some figures with which the Council illustrated their point:

	1958	1959	1960	1961	1962	1963	1964
Full-employment (+ or -) surplus or deficit	+4.0	+6.5	+12.5	+8.0	+6.0	+8.0	+4.0
Actual surplus or deficit	-9.4	-1.1	+ 3.5	-4.5	-4.3	-2.8	-3.0
GNP, current prices	447	484	504	520	560	589	629
Potential GNP[a]	485	502	519	537	556	577	599
Actual GNP[a]	447	476	488	497	530	551	581

[a] 1958 prices.

Questions

1. How do you account for the fact that the actual budget never had a surplus even close to the so-called "full-employment surplus" in any of the years given?

2. If fiscal policy is unchanging from year to year in its spending totals and in its tax structure, why might the "full-employment" surplus continue to grow larger? What is the proper remedy, according to the CEA?

3. In 1958, the Eisenhower administration drew up a budget that was expected to balance. What could have caused such a surpising deficit instead?

4. U. S. Federal Budget (in billions); Unemployment and Inflation Rates 1969 - 1973

Year	Actual Budget Surplus	Change from Previous Year	Full-employment Surplus	Change from Previous Year	Unemployment Rate	CPI (1967=100)
1969	8.1	-	8.8	-	3.5	109.8
1970	-11.9	-20.0	4.0	- 4.8	4.9	116.3
1971	-22.1	-10.2	-2.1	- 6.1	5.9	121.3
1972	-15.9	+ 6.2	-7.7	- 5.6	5.6	125.3
1973	.6	+16.5	5.8	+13.5	4.9	133.1

a. Judging from the figures above, how could the actual government deficits from 1970 to 1972 be explained?

b. How is the actual deficit consistent with a full-employment surplus in 1970?

c. What evidence is there of a significant shift in fiscal policy from 1972 to 1973? What problem was it evidently designed to meet?

ANSWERS

Problem 2-A

1. C
2. A
3. D
4. B
5. B
6. C
7. C
8. D
9. C
10. A
11. B
12. C

Problem 2-B

1. B
2. C
3. A
4. C
5. D
6. C
7. C
8. C
9. A
10. A
11. D

Problem 2-C

1. B
2. D
3. B
4. A
5. D
6. A
7. A
8. C
9. A
10. C

Problem 4-A

a. 300 GNP

b. 100 GNP

c. 50 GNE

d. An increase in GNE of 50 stimulates an increase in GNP of 100 since the slope of the aggregate demand line is 1/2 (this indicates a multiplier of $\frac{1}{1-1/2}$, or 2.)

e. The fiscal policy measures suggested by this situation are:

1. An increase in government spending of 50 with taxes held at their present level.

or 2. A tax reduction equalling 100 with government expenditure held at its present level.

Problem 4-B

a. $400 billion

b. deficit; $50 billion

c. surplus; $25 billion

d. No. Equilibrium GNP occurs where total expenditures equal total income. The graph above does allow us to determine which level of GNP makes G = T, but that may or may not be the equilibrium level of GNP.

Problem 4-C *How a Fiscal Shot in the Arm Worked*

1. $MPC = \frac{\Delta C}{\Delta Y_d} = .93$

2. 1/2

3. after-tax income rises, permits larger dividends to shareholders

4. about $10 billion; $9+ billion; $18+ billion

5. higher profits, higher expectations of demand from tax cut, increase in residential construction from more prosperous households.

6. Automatic increase in local tax revenues from rising spending will permit them to spend more.

7. $10-14 billion

8. $30 billion

Problem 4-D: *Fiscal Drag and the Full Employment Surplus*

1. Actual GNP was well below potential full-employment GNP. Incomes were below full-employment levels, so that tax revenues were low also.
2. Normal annual growth of GNP and incomes -- even at less than full employment -- means that tax revenues automatically rise. This growth also shifts the target potential GNP to a higher level.
3. Recession prevented normal growth in incomes, so tax revenues failed to rise as expected. (To avoid a budget deficit, President Eisenhower directed a decrease in government expenditure -- not realizing that this, in turn, would cause a decrease in tax revenues resulting in an actual budget deficit.)
4. a. From 1969 to 1971 the full employment surplus shifted by 10.9 (from 8.8 to -2.1). The drop to below full employment could account for the rest of the 30.2 swing (from 8.1 to -22.1). Somewhat improved employment overcame further shift toward F.E. deficit in 1972.
   b. Because unemployment is higher than the 4 percent full employment level.
   c. The shift of +13.2 in the full employment surplus (7.7 + 5.8). It was intended to combat inflation.